

D. Corrective
Action

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Borden Chemical (Printing Ink)
Facility Address: no longer in existence
Facility EPA ID #: 0HD005043740

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

Y If yes - check here and continue with #2 below.
— If no - re-evaluate existing data, or
— if data are not available skip to #6 and enter "IN" (more information needed) status code.
—

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is groundwater known or reasonably suspected to be “contaminated”¹ above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

— If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

N If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

— If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): 1992 PA/VSI Report for Borden Chemicals prepared for USEPA by PRC.

Data (Table 3) in the 1992 PA/VSI report indicates that in 1986 several VOCs did exceed levels of concern. Evidently in 1998, Cherokee Environmental Risk Mgt. sampled the property in order to certify closure. By 2000 Cherokee had established there were no remaining environmental issues. During removal action in 1986, four borings were sampled from which boring # 3 was found to have several elevated VOCs, of which only two parameters exceeded MCL values (i.e. – TCE and PCE) at a 17 foot depth. Air stripping remediation attempts were made over the next two months to further reduce contaminants. In 1988, there were no VOCs detections in the 160 foot depth dolomite aquifer which is used locally as a drinking water source. A ‘very tight layer of gray clay’ underlies the area of the entire former site from 12 feet to 17 feet, although the clay layer probably extends to 20 feet below the ground surface. Dolomite bedrock lies immediately under the 5 to 8 foot clay layer. While groundwater in which shallow level contamination was detected 20 years ago is not considered a potable source, it is also most unlikely to represent a vertically migrating plume. While there is no current or recent groundwater data characterizing the contamination, its horizontal rate of migration is most likely negligible, especially since any contaminants remaining following site remediation efforts may have biodegraded during the past 20 years.

1986 Contaminant concentrations noted/(Region 9 PRG Value - 2002): Benzene – 4.2 ug/L/(0.34 ug/L); TCE – 13 ug/L/(0.28 ug/L); PCE – 64 ug/L/(0.66 ug/L); Toluene – 330 ug/L/(72 ug/L); Ethylbenzene – 6.1 ug/L/(2.9 ug/L); m-dichlorobenzene – 9.7 ug/L/(5.5 ug/L); o + p – dichlorobenzene 36 ug/L/(370, 0.5 ug/L, for o & p isomers, respectively)

(Table 3).

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

Migration of Contaminated Groundwater Under Control

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3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"² as defined by the monitoring locations designated at the time of this determination)?

— If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"².

— If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"²) - skip to #8 and enter "NO" status code, after providing an explanation.

— If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

² "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

_____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

_____ Rationale and Reference(s):

5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

____ If unknown - enter "IN" status code in #8.

____ Rationale and Reference(s):

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter “IN” status code.

_____ Rationale and Reference(s):

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"
- If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."
- If no - enter "NO" status code in #8.
- If unknown - enter "IN" status code in #8.

Rationale and Reference(s):


8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).


Y

YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Former Borden chemicals facility, EPA ID # OHD005043740, formerly located at Whitehouse, OH. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

NO - Unacceptable migration of contaminated groundwater is observed or expected.

IN - More information is needed to make a determination.

Completed by	(signature)		Date	7-31-07
	(print)	Allen Debus		
	(title)	Chemist/Project Manager		

Supervisor	(signature)		Date	7/31/07
	(print)	HAK CHO		
	(title)	CHIEF, CA Section		
	(Region or State)			

Locations where References may be found:

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DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Borden Chemical (Printing Ink)
Facility Address: (Whitehouse, OH), no longer in existence; 6725 Gilead St.
Facility EPA ID #: 0HD005043740

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

Y If yes - check here and continue with #2 below.
— If no - re-evaluate existing data, or
— if data are not available skip to #6 and enter "IN" (more information needed) status code.
—

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “**contaminated**”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater		N		
Air (indoors) ²		N		
Surface Soil (e.g., <2 ft)		N		
Surface Water		N		
Sediment		N		
Subsurf. Soil (e.g., >2 ft)	Y			1992 PA/VSI report
Air (outdoors)		N		

— If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

Y If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

— If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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Presently 2 private residences and a Dollar General store situated on a paved lot exist on the former property boundary. Two parcels of this property are no longer commercially zoned. The abandoned Borden site was decommissioned in the late 1990s following 1999 sampling conducted to certify closure with the OEPA. A 2/15/00 letter from Cherokee Environmental that sampled & remediated the facility indicated 'no remaining environmental issues.' The 1992 PA/VSI report indicates contaminated soil was excavated & removed. Also see note following Question no.6.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	N__	N__	N__	N__			N__
Air (indoors)	N__	N__	N__				
Soil (surface, e.g., <2 ft)	N__	N__	N__	N__	N__	N__	N__
Surface Water	N__	N__			N__	N__	N__
Sediment	N__	N__			N__	N__	N__
Soil (subsurface e.g., >2 ft)				N__			N__
Air (outdoors)	N__	N__	N__	N__	N__		

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

N

If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

— If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Property is privately owned & chances for major subsurface construction remain unlikely.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**⁴ (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

⁴ If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the "significant" exposures (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

Current Human Exposures Under Control
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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

Y
—

YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the (former) Borden Chemical facility, EPA ID # 0HD 005 043 740 formerly located at 6725 Gilead St. Whitehouse, OH under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

—

 IN - More information is needed to make a determination.

Note:

I supplemented the U.S. EPA's single file of available documents through a series of phone calls and informational requests. This note shall document those communications. The PA/VSI was completed on June 17, 1992. Borden's 5-acre facility became inactive in 1985, shortly after its Drum Storage Pad closure was certified-approved by the U.S. EPA (in 1984).

Although Borden had been used as a dairy between the 1930s through 1950s, between 1961 and 1982 it operated as a manufacturing center, producing lead and solvent-based printing inks. A decade ago, authors of the PA/VSI report recommended further action (i.e. groundwater sampling and analysis for VOCs) for the vicinity of an area formerly occupied by underground fuel tanks. Two underground tanks (1,000 gallons & 6,000 gallon capacities) had been removed from the location in 1991. Total Petroleum Hydrocarbons (TPH) contamination was noted, leading to excavation and offsite disposal of petroleum-contaminated (4,000 ppm) soil. Following remediation, residual TPH levels were < 20 ppm.

Borden also managed a former underground tank farm, from which chemical releases (i.e. VOCs) occurred. The 1992 PA/VSI report states *"...significant levels of VOCs were detected in groundwater samples. Nothing has been done to remediate this groundwater contamination. An (8 foot thick) clay layer appears to underlie the area at a depth of about 12 feet preventing downward migration to the primary water-bearing aquifer.... Though no soil samples were taken, subsurface soil is probably contaminated because there is groundwater contamination. Surface soil should be free of contamination because the release occurred underground."*

The PA/VSI also described an area contaminated with lead, from which 272 cubic yards of soils contaminated with up to 110 ppm lead were removed in 1988. Authors of the 1992 PA/VSI report concluded that groundwater should be sampled for metals and VOCs in the vicinity of the lead-contamination zone.

Because the U.S. EPA's file information ended with the 1992 PA/VSI report, it was not possible to decipher what had happened at the facility since 1992 without making a series of phone calls. But, following a chain of telephone calls, I gleaned the following. Admittedly, some of this information is rather 'sketchy.'

In late 1997, OEPA had been notified of the sale of the former Borden facility involving (or possibly sold to) a firm named Cherokee Environmental Risk Mgt., based in Englewood, CO. Cherokee performed additional sampling in 1999 to 'complete a certified closure.' Then, the property was resold, following demolition of onsite building structures (by a firm known as 'ERMC'). Evidently, following the closure-related sampling, a Feb. 15, 2000 Cherokee letter explains how there were, 'no remaining environmental issues.' Repeated phone requests to Cherokee scored no success in obtaining these documents or other information bearing on recent Borden site history. From the OEPA-NW District Office's archives, however, I was able to obtain a copy of a 7/8/98 letter from Cherokee addressed to OEPA. Therein, after summarizing results of the PA/VSI and requesting a 'no further action determination' from OEPA, Cherokee stated that *"Strategic subsurface samples need to be taken in order to confirm that contaminant migration into the soils and shallow groundwater has not occurred...."* A data summary report contained in the PA/VSI report shows that groundwater contaminant levels were less than MCLs in 1986.

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Prior to uncovering further details on the chain of events leading to property sales, I contacted the Lucas County Recorder office, from whom I obtained the name of the current property owner for the 6725 Gilead address, which is also the former facility street address as noted on Borden's Part A application. Initially I was informed that this address is now a residential property owned by Daniel J. and Leslie A. White. This information was later supplemented by facts supplied through the Lucas County Auditors office, as described below. Given that the former Borden facility is evidently no longer commercially owned or operated, and is now zoned as a family residence, this would be a poor choice for a VCAA. The site no longer meets our definition of commercial facility. Presently, based on my interpretation of available records, there is little reason to suspect that hazardous constituent contamination exists in surface soils above levels of concern to human health. (This activity was reported by the signed reviewer to the file as of May 16, 2002.)

In January 2005 I learned from an OEPA official that as of July 2003 a new business now occupied the site named HA International, specializing in automotive coatings. OEPA - DHWM had documentation of final closure being performed. The cleanup wasn't conducted under the State of Ohio VAP program. In late August 2005 I visited where the site should have been located; however there was no commercial street address conforming to Borden's old address as indicated on its Part A application. HA International was not observed on this street, but north of the presumed facility location there's a "B & L Automotive" which has a Logan street address bearing no apparent relation to the former Borden site. It seems as if Borden's facility may have been situated along the former railroad track line, which is now a hike/bike trail.

The former 5-acre site location is currently divided into 3 parcels (9803821 - mailing address 6711 Gilead St. a 2.8 acre parcel owned by Cocco Development corresponding to the Dollar General store and asphalt parking lot; 9803757 - a private residence situated at 6725 Gilead St. owned by Daniel White, and 9803767, another private residence situated at 6703 Gilead owned by James Fisher. While there is a local phone listing for HA International, it appears to be a business specializing in Christmas tree sales and doesn't bear any relation to the former commercial enterprise. After checking with the Village of Whitehouse (Barb Page) and the Lucas County Auditors Office & associated Engineering Dept., it does not appear as if there is any reason to pursue soil media corrective action with any owners of these parcels.

Completed by	(signature)	<i>Allen A. Debus</i>	Date	7-31-07
	(print)	Allen Debus		
	(title)	Chemist/Project manager		

Supervisor	(signature)	<i>[Signature]</i>	Date	7/31/07
	(print)	LARK K. CHD		
	(title)	CHIEF, CA Section		
	(EPA Region or State)			

Locations where References may be found:

7th Floor Archive at 77 West Jackson Blvd. Chicago, IL

now "Dollar" convenience store.

now divided into 3 parcels (98 no

Contact telephone and e-mail numbers

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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

Allen Debus /R5/USEPA/US

To

02/25/2005 03:01 PM

Subject Borden Chemicals

Mario:

I've researched the file further for that depth-to-groundwater' question you posed this morning. Old file information provides a few clues as to where gw sampling took place, and where the actual levels of possible concern to human health may lie.

In the 1992 PA/VS1 report (p. ES-3) it is indicated that "A 5-foot to 8-foot thick clay layer apparently underlies the facility at a depth of about 12 feet. This clay layer probably limits vertical migration of contamination to the dolomite aquifer. This aquifer is the sole source of drinking water for the 2,500 residents of Whitehouse." On p. 12 of the PA/VS1 report it is further stated, "An on-site industrial well, screened 190 feet bgs in the dolomite aquifer, was sampled in early 1988 and showed no signs of VOC contamination."

However, in 1986 (corresponding to the gw data I showed you this morning), drilling was performed down to 17 feet. Then, "The borings were left open for three hours and the groundwater that collected at the bottom was sampled." (PA/VS1 p. 10) This information was derived from a technical report prepared by Groundwater Technology, Inc. (p. 3 of 9 - undated but it is mentioned that the sampling took place on 8/20/86). Groundwater collected in only 3 of 4 borings, indicating "...the presence of hydraulic discontinuities in the sand lenses." (PA/VS1, p. 16)

Both the Groundwater Technology report (p.6 of 9) and the PA/VS1 (p. 16) comment on the nature of 'shallow sand lenses' underlying the site. "...the sand lens found at approximately 3' - 4' serves as the upper most water bearing unit. This sand lens is discontinuous in areas due to excavations for building purposes. For this reason, no water was accumulated in well # 4." (GT report, p. 6 of 9)

In the 'Results' page of the IATT Environmental, Inc. report (4/5/91) we read, "The sediment presented on the site consists of a loamy fine sand to a depth of 40 inches. Below 40 inches the sediment consists of a dark-brown, gray, silty clay." The sand lenses are evidently *interspersed* within the silty clay. (GT report) Other Geological information of possible relevance is presented on p. 15 of the PA/VS1 report.

Given that background information, it would seem, perhaps, as if the most conservative approach might be the residential scenario, with contaminants listed in Table 3 of the PA/VS1 report assumed to be present 3' to 4' feet bgs, in the sand lens deposit. Furthermore, although it would be scientifically unreasonable, we could also presume that there has been no degradation of the chemicals since 1986 (!). It would be reasonable to presume there have been no chemical additions since then as well.

Please let me know if it might be worth pursuing this line of reasoning further, in an effort to determine whether there could be a short term vapor intrusion problem w/respect to CA-725. Or are there so many unreasonable assumptions being made here that running the model wouldn't be sound or realistic even for a 'worst case' scenario?

Allen

Borden Chemical Printing Ink Division
Whitehouse, OH
OHD005043740

Summary of Site Operations and Current Operating Status:

The Borden facility produced lead and solvent based printing inks from 1961 through 1982, when the facility converted to water-based inks and minimized the use of lead pigments. The Borden facility has been inactive since 1985 and hazardous waste activity no longer takes place on site. Prior to 1961 the facility produced shellacs and other coatings. From the 1930s through the 1950s the facility operated as a dairy.

RCRA VSI Inspection Date

June 17, 1992

Compounds Stored, Treated, Generated or Disposed of at the Facility:

Wastes generated at the facility included:

- Solvent and lead based ink wastes K086

Solid Waste Management Units

SWMU	STATUS
1) Drum Storage Pad	Clean Closure Acceptable (9/28/84)
2) Warehouse Drum Storage Area	Unknown
3) Former Underground Tank Farm	Unknown
4) Former Lead Contaminated Soils Area	Unknown
Area Of Concern	STATUS
1)Former Underground Fuel Tank Area	Unknown

General Comments:

SWMU 1 Clean Closed in 1984

SWMU 2 Two drums containing floor cleaner. Drums were placed on sound concrete and were in good condition.

SWMU 3 UST containing solvents were removed. Preliminary samples suggest gw impact. Air stripping conducted and pit was back filled. Present contamination in gw is unknown.

SWMU 4 Lead contaminated soils were ID in a fairly large area. Borden removed 272 cu yds soil. Additional sample confirms contaminated soil was removed however, no gw samples were taken.

Follow-up Reporting: RFA Completed 4/92

Corrective Action Schedule: FY04

J. Nichele 10/9/98

 Sensitive information. Official use only. Shred/burn to dispose.

* * * PERMIT, CLOSURE, POST/CLOSURE REPORT * * *

=====

Handler Name / ID / Address	S O N P V	Regulated Activities
✓BORDEN CHEMICAL PRINTING INK DIV OHD005043740 6725 GILEAD ST, WHITEHOUSE	P H	LG TR

- - - - - TREATMENT/STORAGE/DISPOSAL (TSD) UNITS - - - - -

Unit Name	Sequence #	Design Capacity	As-of	C Leg Op
-----------	------------	-----------------	-------	----------

UNITS INTERIM STATUS and
 CLEAN CLOSED

CONTAINER STORAGE	S01 001-003	20,000.000 GALLON	09/28/84	IS CC *
	S01 002	20,000.000 GALLON	11/03/82	IS IN
	S01 001	20,000.000 GALLON	11/19/80	IS OP

UNITS NEVER REGULATED AS A TSD and
 PROTECTIVE FILER

TANK STORAGE	S02 002-002	10,000.000 GALLON	09/28/82	NR PF
	S01 001	10,000.000 GALLON	11/19/80	IS OP

EVENTS (001 PART B W/D) STATE: EPA:

Event / Status / Covered Units / Comments	Staff	Scheduled	Actual
CL-380(01) CLOSURE VERIFICATION CA - CLEAN CLOSURE ACCEPTABLE <i>Drum Storage Pad</i> CONTAINER STORAGE (S01 001-003)	E		09/28/84
OP-190(01) WITHDRAWAL REQUEST DETERMINATION AR - APPROVED REQUEST TANK STORAGE (S02 002-002)	E	08/31/84	09/28/84
CL-370(01) RECEIVE CLOSURE CERTIFICATION YE - ACCORDING TO PLAN CONTAINER STORAGE (S01 001-002)	E		11/21/83
OP-020(01) PART B RECEIVED	E BLS	09/30/82	
OP-180(01) RECEIVED WITHDRAWAL REQUEST FC - INTENDS/CLOSED ALL WASTE HANDLING FAC. TANK STORAGE (S01 002-001)	E		09/09/82
OP-010(01) PART B CALL-IN TANK STORAGE (S01 002-001)	E		03/31/82
OP-001(01) PART A RECEIVED CONTAINER STORAGE (S01 001-001) TANK STORAGE (S02 002-002)	E		11/19/80

EVENTS (002 CL:CONT.STRG) STATE: EPA:

Event / Status / Covered Units / Comments	Staff	Scheduled	Actual
CL-360(01) PLAN APPROVED - CLOSURE ME - FINAL CLOSURE CONTAINER STORAGE (S01 001-002)	E		09/28/84
CL-340(01) PUBLIC NOTICE - CLOSURE CONTAINER STORAGE (S01 001-002)	E		08/31/84
CL-310(01) PLAN RECEIVED - CLOSURE CONTAINER STORAGE (S01 001-002)	E		11/03/82

* * * * * E N D O F R E P O R T * * * * *

Sensitive information. Official use only. Shred/burn to dispose.

* * * CORRECTIVE ACTION REPORT * * *

Handler Name / ID / Address	S O N P V	Regulated Activities
-----	- - - - -	- - - - -
✓BORDEN CHEMICAL PRINTING INK DIV	P H	LG TR
OHD005043740 6725 GILEAD ST, WHITEHOUSE		

- - - - - CORRECTIVE ACTION INSTRUMENTS - - - - -			
Instrument	Authority	Agcy/Staff	Issued Effective

- - - - - CORRECTIVE ACTION EVENTS - - - - -			
Event/Status/Instrument/Area/Comments	Staff	Schedule	Actual
CA075(01) CA PRIORITIZATION	R E MW		05/29/92
HI - HIGH CA PRIORITY			
CA225(01) STABILIZATION MEASURES EVALUATION	R E MW		05/29/92
IN - FURTHER INVESTIGATION NECESSARY			
CA050(02) RFA COMPLETED	R E KP		04/01/92

* * * * * E N D O F R E P O R T * * * * *

IN

CORRECTIVE ACTION STABILIZATION QUESTIONNAIRE

Completed by: Mary Wojciechowski
 Date: May 29, 1992

Background Facility Information

Facility Name: Borden Chemical Printing Ink Division
 EPA Identification No.: OHD 005 043 740
 Location (City, State): Whitehouse, Ohio
 Facility Priority Rank: High

1. Is this checklist being completed for one solid waste management unit (SWMU), several SWMUs, or the entire facility? Explain.

Entire facility
2 SWMUs
3 AOCs

Status of Corrective Action Activities at the Facility

2. What is the current status of HSWA corrective action activities at the facility?
- ☐ No corrective action activities initiated (Go to 5)
 - ☒ RCRA Facility Assessment (RFA) or equivalent completed
 - ☐ RCRA Facility Investigation (RFI) underway
 - ☐ RFI completed
 - ☐ Corrective Measures Study (CMS) completed
 - ☐ Corrective Measures Implementation (CMI) begun or completed
 - ☐ Interim Measures begun or completed

3. If corrective action activities have been initiated, are they being carried out under a permit or an enforcement order?

- ☐ Operating permit
- ☐ Post-closure permit
- ☐ Enforcement order
- ☒ Other (Explain)

Corrective action has been initiated on a voluntary basis.

4. Have interim measures, if required or completed [see Question 2], been successful in preventing the further spread of contamination at the facility?

- ☐ Yes
- ☐ No
- ☒ Uncertain; still underway
- ☐ Not required

Additional explanatory notes:

Further sampling needs to be conducted to determine the effectiveness of past corrective actions.

Facility Releases and Exposure Concerns

5. To what media have contaminant releases from the facility occurred or been suspected of occurring?

☒ Ground water
☐ Surface water
☐ Air
☒ Soils

6. Are contaminant releases migrating off-site?

☐ Yes; Indicate media, contaminant concentrations, and level of certainty.

Groundwater:

Surface water:

Air:

Soils:

☐ No
☒ Uncertain

- 7a. Are humans currently being exposed to contaminants released from the facility?

☐ Yes (Go to 8a)
☐ No
☒ Uncertain

Additional explanatory notes:

Ground water is used as drinking water but it is not known if contamination has migrated off site.

- 7b. Is there a potential for human exposure to the contaminants released from the facility over the next 5 to 10 years?

☒ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

If contaminants were to migrate off site, municipal wells and private wells might be affected.

- 8a. Are environmental receptors currently being exposed to contaminants released from the facility?

☐ Yes (Go to 9)
☐ No
☒ Uncertain

Additional explanatory notes:

It is not known if contamination has migrated off site.

- 8b. Is there a potential that environmental receptors could be exposed to the contaminants released from the facility over the next 5 to 10 years?

☒ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

Ground water is used as drinking water but it is not known if contamination has migrated off site.

Anticipated Final Corrective Measures

9. If already identified or planned, would final corrective measures be able to be implemented in time to adequately address any existing or short-term threat to human health and the environment?

☐ Yes
☒ No
☐ Uncertain

Additional explanatory notes:

No final corrective measures are identified or planned

10. Could a stabilization initiative at this facility reduce the present or near-term (e.g., less than two years) risks to human health and the environment?

☐ Yes
☒ No
☐ Uncertain

Additional explanatory notes:

Further sampling is needed to verify effectiveness of past corrective actions and current existence of contamination

11. If a stabilization activity were not begun, would the threat to human health and the environment significantly increase before final corrective measures could be implemented?

☐ Yes
☐ No
☒ Uncertain

Additional explanatory notes:

Further sampling is needed to verify effectiveness of past corrective actions and current existence of contamination.

Technical Ability to Implement Stabilization Activities

12. In what phase does the contaminant exist under ambient site conditions? Check all that apply.

☐ Solid
☒ Light non-aqueous phase liquids (LNAPLs)
☐ Dense non-aqueous phase liquids (DNAPLs)
☒ Dissolved in ground water or surface water
☐ Gaseous
☐ Other _____

13. Which of the following major chemical groupings are of concern at the facility?

☒ Volatile organic compounds (VOCs) and/or semi-volatiles
☐ Polynuclear aromatics (PAHs)
☐ Pesticides
☐ Polychlorinated biphenyls (PCBs) and/or dioxins
☐ Other organics
☒ Inorganics and metals
☐ Explosives
☐ Other _____

14. Are appropriate stabilization technologies available to prevent the further spread of contamination, based on contaminant characteristics and the facility's environmental setting? [See Attachment A for a listing of potential stabilization technologies.]

☐ Yes; Indicate possible course of action.

☒ No; Indicate why stabilization technologies are not appropriate; then go to Question 18.

Further sampling is needed to verify effectiveness of past corrective actions and current existence of contamination.

15. Has the RFI, or another environmental investigation, provided the site characterization and waste release data needed to design and implement a stabilization activity?

☐ Yes
☐ No

If No, can these data be obtained faster than the data needed to implement the final corrective measures?

☐ Yes
☐ No

Timing and Other Procedural Issues Associated with Stabilization

16. Can stabilization activities be implemented more quickly than the final corrective measures?

☐ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

17. Can stabilization activities be incorporated into the final corrective measures at some point in the future?

☐ Yes
☐ No
☐ Uncertain

Additional explanatory notes:

Conclusion

18. Is this facility an appropriate candidate for stabilization activities?

- ☐ Yes
- ☐ No, not feasible
- ☐ No, not required
- ☒ Further investigation necessary

Explain final decision, using additional sheets if necessary.

Past corrective actions have focused on three areas of concern (AOCs) at the facility.

AOC 1 - Former Underground Tank Area -- After removal of the tank farm in 1986, water contaminated with VOCs (52 to 680 ppm) was discovered at the bottom of the excavation. the water was treated with a spray-basin air stripping unit. In 1987, samples of water seeping into the excavation was found to contain no VOCs above 1 ppm. In addition, 3 nearby wells screened in the shallow sand aquifer were found to contain VOCs ranging from below detectable limits to 330 ppb. No further ground water sampling or corrective action has taken place. There has been no soil sampling conducted in this area.

AOC 2 - Former Lead Contaminated Soils Area -- In 1988, EP Toxic lead concentrations of 110 ppm were found in on-site soils. 272 cubic yards of soil were removed. Lead levels in the soil were <5 ppm after removal. There has been no ground-water sampling conducted in this area.

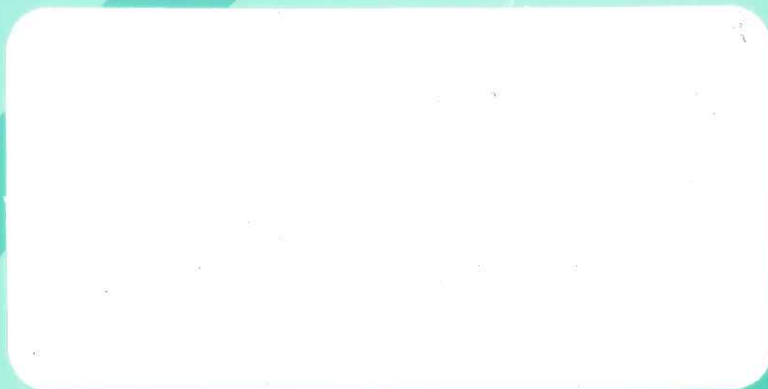
AOC 3 - Former Underground Fuel Tank Area -- After removal of the tank in 1991, 4,000 ppm of total petroleum hydrocarbons (TPH) was discovered in the soil. The soil was excavated until TPH levels were below 20 ppm. There has been no ground-water sampling conducted in this area.

In addition to the three AOCs, 1988 samples taken of an on-site industrial well screened in dolomite 190 feet below ground surface (bgs) revealed 80 ppb of lead and 20 ppb of cadmium. The maximum concentration limit (MCL) for lead in ground water is 50 ppb and the MCL for cadmium is 10 ppb. Municipal wells are also screened in dolomite 195 feet bgs and are located 3,000 feet west of the facility. The nearest private well (depth unknown) is 3,300 feet east of the facility. Local ground water flow directions are not known.

It is currently not feasible to determine the need for stabilization at this facility because further on- and off-site soil and ground-water sampling needs to be conducted. This will help determine the success of past corrective actions and the current nature and extent of contamination.



U.S. Environmental Protection Agency
Office of Waste Programs Enforcement
Contract No. 68-W9-0006



TES 9

**Technical Enforcement Support
at Hazardous Waste Sites
Zone III
Regions 5,6, and 7**



PRC Environmental Management, Inc.

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**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**BORDEN CHEMICAL PRINTING INK DIVISION
WHITEHOUSE, OHIO
OHD 005 043 740**

FINAL REPORT

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

Work Assignment No.	:	C05087
EPA Region	:	5
Site No.	:	OHD 005 043 740
Date Prepared	:	June 17, 1992
Contract No.	:	68-W9-0006
PRC No.	:	009-C05087OH2D
Prepared by	:	PRC Environmental Management, Inc. (David Berestka)
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- B VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS
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RELEASED
DATE 6/11/00
RIN #
INITIALS WV

ENFORCEMENT
CONFIDENTIAL

EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Borden Chemical Printing Ink Division (Borden) facility in Whitehouse, Ohio. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities for corrective action.

The Borden facility has been inactive since 1985, and hazardous waste activity no longer takes place on site. The facility is currently leased to Clapp and Haney Co. for storage of packaging materials and machinery. The Borden facility produced lead- and solvent-based printing inks from 1961 to 1982, when the facility converted production to water-based inks and minimized the use of lead pigments. During its years of operation, the facility employed about 20 people. Prior to its use as an ink producing facility, the facility produced shellacs and other coatings. From the 1930s to the mid 1950s, the facility was operated as a dairy. The 5-acre facility is located in a mixed-use area.

The facility has withdrawn its Part A permit for storage of wastes on the drum storage pad and is no longer operating. Closure of the Drum Storage Pad (SWMU 1) was completed in 1983 and approved by EPA in 1984.

The PA/VSI identified the following four SWMUs and one AOC at the facility:

Solid Waste Management Units

1. Drum Storage Pad
2. Warehouse Drum Storage Area
3. Former Underground Tank Farm Area
4. Former Lead-Contaminated Soils Area

Area of Concern

1. Former Underground Fuel Tank Area

The potential for release to all environmental media from the Drum Storage Pad (SWMU 1) is low, because the unit was certified closed and no longer manages any wastes. Prior to closure, the unit managed 55-gallon drums of solvent-based and lead-containing ink wastes

(K086) outdoors on a concrete pad with no secondary containment. No releases from this unit have been documented.

The Warehouse Drum Storage Area (SWMU 2) consists of two drums stored indoors on a concrete floor in the warehouse. One of the drums contains floor cleaner. The other drum appears to have come from an Ohio Environmental Protection Agency (OEPA) complaint investigation. In 1988, OEPA responded to a resident's complaint about a number of drums left on the grounds of the closed facility. OEPA responded and sampled some of the 12 drums that were found during the investigation. The drums that were sampled were found to be nonhazardous. It is not known if the drum in SWMU 2 was sampled. The other 11 drums were evidently removed from the facility. The potential for release to all environmental media from SWMU 2 is low, because the drums are in good condition and located indoors on sound concrete flooring.

In 1986, a release to ground water was discovered during the removal of 10 underground storage tanks at the Former Underground Tank Farm Area (SWMU 3). The tanks held a variety of solvents used in the ink manufacturing process. Four borings were installed. Samples from three of the borings indicated that the ground water was contaminated with volatile organic compounds (VOC). The pit where the tanks had been located filled with water which was also found to be contaminated with VOCs. The water in the pit was remediated with a bioremediation and air stripping system. This action lowered the contamination in the pit water to undetectable levels. The pit was backfilled after the remediation. Because the surrounding subsurface soils and borings were never resampled, the effect of the pit remediation on subsurface soils and ground water is not known. Nevertheless, PRC suspects that shallow ground water and subsurface soils at the facility are probably still contaminated. The potential for release of this contamination to surface water, air, and surface soils is low because all contamination is underground.

The Former Lead-Contaminated Soils Area (SWMU 4) was discovered during the 1988 OEPA complaint investigation, when the inspectors noted a small area of discolored soil. Samples of the soil were taken and found to contain high levels of lead. OEPA requested that Borden clean the area up. The soil probably became contaminated from spilling of lead-based dry pigments. Borden had additional soil samples analyzed and found the contaminated area was fairly large. Borden had 272 cubic yards of lead-contaminated soil excavated and disposed of off-site. Additional sampling indicated that nearly all of the contaminated soil had been removed. No groundwater samples were taken. PRC suspects that some of the lead contamination may have migrated downward and contaminated the shallow ground water and

subsurface soils. The potential for release to surface water, air, and surface soils is low because all remaining contamination is underground.

A release of petroleum hydrocarbons to subsurface soil was discovered at the Former Underground Fuel Tank Area (AOC 1). In 1991, two underground fuel oil storage tanks were removed and found to have several small holes. The surrounding soils were found to have high levels of total petroleum hydrocarbons (TPH). Thirty cubic yards of the surrounding soil was excavated and disposed of off-site. The pit was backfilled with clean soil. No ground-water samples were collected. Soil sampling indicated that most of the contaminated soil has been removed. However, PRC suspects that some of the contamination migrated downward to the shallow ground water. The potential for release to surface water, air, surface soils is low because all contamination is underground.

Discontinuities in the sand lenses below the facility may prevent horizontal contaminant migration through the glacial till. A 5-foot to 8-foot thick clay layer apparently underlies the facility at a depth of about 12 feet. This clay layer probably limits vertical migration of contamination to the dolomite aquifer. This aquifer is the sole source of drinking water for the 2,500 residents of Whitehouse. Municipal well fields are located about 3,300 feet southwest of the facility. Private drinking water wells are located about 3,000 feet north of the facility. Ground-water in the dolomite aquifer flows north.

The nearest residence is adjacent to the north side of the facility. Other residences are located across Gilead Street to the west and across the dismantled railroad tracks to the south. Whitehouse Park also lies 100 feet to the south. The nearest surface water is an unnamed pond in Whitehouse Park, about 600 feet south of the facility. Some of the barbed wire has fallen down on the facility's south fence, and some graffiti was evident on the inside of the facility. Thus, access to the facility is only partially limited.

PRC recommends that the drums at SWMU 2 be properly disposed of, because the facility is inactive and should not store any waste. PRC recommends that ground-water and soil samples be collected in the Former Underground Tank Farm Area (SWMU 3), the Former Lead-Contaminated Soils Area (SWMU 4), and the Former Underground Fuel Tank Area (AOC 1). These samples should be analyzed for VOCs and metals to determine if ground water and subsurface soils in these areas are contaminated.

RELEASED
DATE 6/1/02
RIN #
INITIALS WV

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all visible SWMUs, identifying evidence of releases, initially identifying potential sampling parameters and locations, if needed, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Borden Chemical Printing Ink Division (Borden) facility in Whitehouse, Ohio. The PA was completed on January 19, 1992. PRC gathered and reviewed information from the Ohio Environmental Protection Agency (OEPA) and from EPA Region 5 RCRA files. The VSI was conducted on January 20, 1992. It included interviews with a Borden facility representative and a walk-through inspection of the facility. Four SWMUs and one AOC were identified at the facility.

PRC completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and three inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

The Borden facility is located at 6725 Gilead Street in Whitehouse, Lucas County, Ohio (latitude 41° 31' 050" N and longitude 83° 48' 030" W). The facility occupies about 5 acres in a mixed residential and industrial use area (see Figure 1).

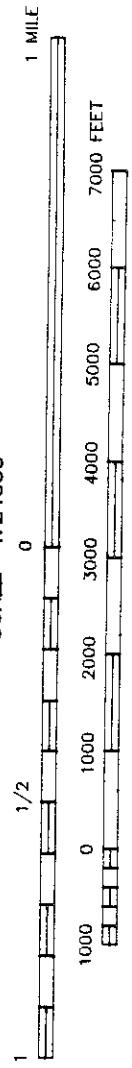
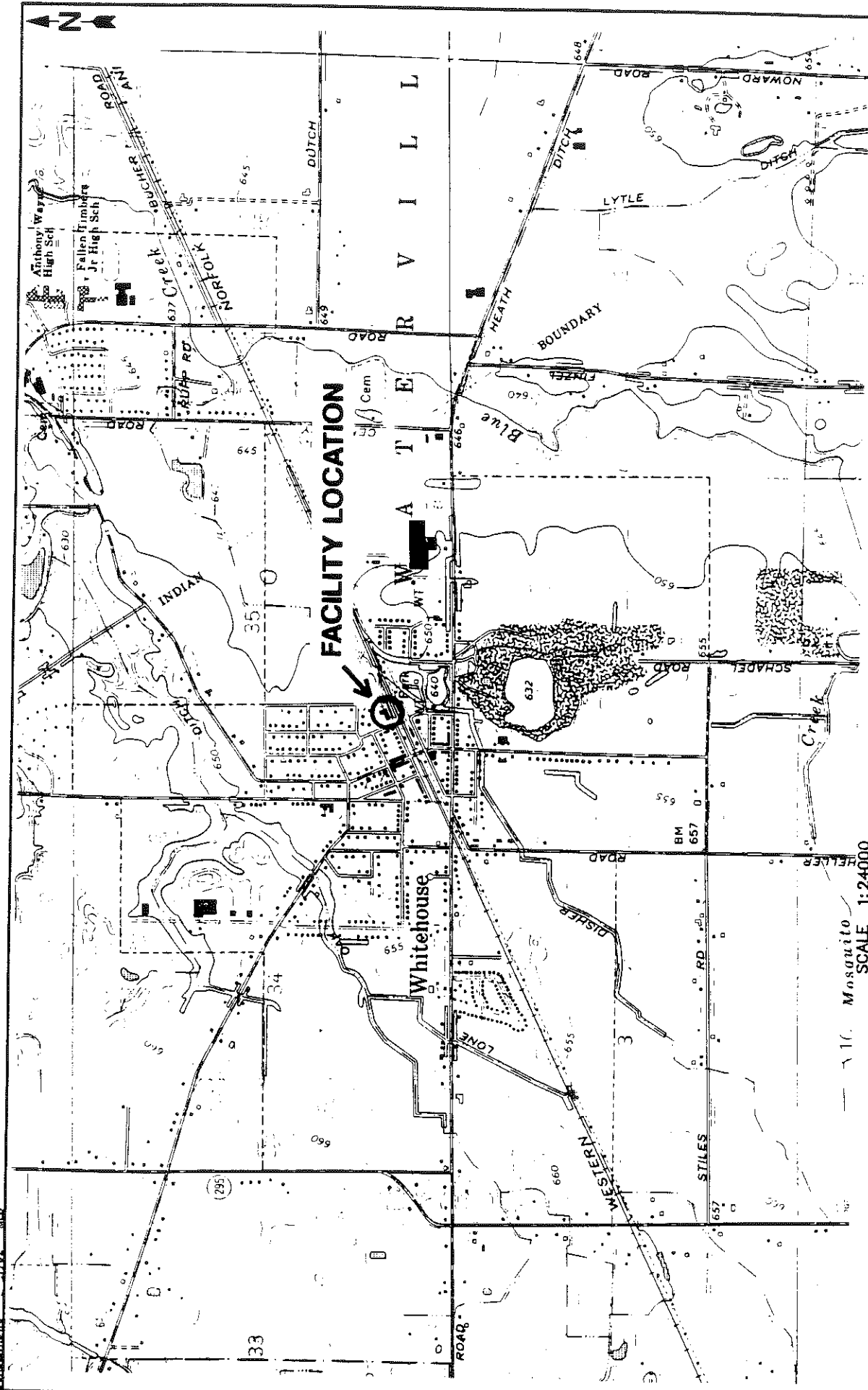
The facility is bordered on the north by a residence and a Marathon Bulk Fuel Oil Plant, on the east by fields, on the south by dismantled railroad tracks and Whitehouse Park, and on the west by residential areas.

2.2 FACILITY OPERATIONS

The facility was built in the early 1930s and was operated by Page Dairy Co. as a dairy until the mid 1950s. Silco, Inc., bought the facility in the late 1950s and produced shellac and other coatings until 1961, when Borden bought the facility. Borden produced lead- and solvent-based printing inks until the mid to late 1970s, when production of some water-based and lead-free inks began. By 1982, solvent-based ink production had been phased out, and the facility produced only water-based inks. At the same time, the use of lead pigments was reduced. In 1985, all production ceased and the facility began closure activities. From 1989 until the present, Clapp and Haney Co. has leased the facility to store packaging material and machinery.

Borden manufactured ink by using high-speed mixers and ball mills to disperse dry pigments into either a solvent or water base. Fillers such as clay, calcium carbonate and titanium dioxide were often added to adjust viscosity or reduce costs. Nitrous cellulose was often added as a binder for inks used for printing on milk cartons. The facility produced 6 to 7 million pounds of ink annually.

The 5-acre facility consists of a 15,500-square-foot main building, which contained all of the manufacturing operations, offices and a laboratory for matching ink colors; a 2,160-square-foot laboratory which was mainly used as a lunchroom; a 576-square-foot boiler room; and three 1,152-square-foot metal storage buildings that housed dry pigments, calcium carbonate, nitrous



SCALE 1:24000
Mosquito

SCALE: 1" = 2,000'

BORDEN CHEMICAL
WHITEHOUSE, OHIO

FIGURE 1

FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

cellulose, and titanium dioxide.

Currently, no waste is generated on site. However, from 1961 to 1981, solvent-based ink production generated spent solvents and sludge waste (K086). These wastes were managed at the Drum Storage Pad (SWMU 1). During the VSI, PRC observed two drums in the Warehouse Drum Storage Area (SWMU 2). The contents of these drums is not known. Facility SWMUs are identified in Table 1.

Raw solvents used in the production of inks were stored in 10 underground storage tanks. The capacity and the contents of the tanks in the Former Underground Tank Farm Area (SWMU 3) are listed below (Cousins Waste Control Corp., 1987):

<u>Tank No.</u>	<u>Contents</u>	<u>Capacity (gallons)</u>
1	Cellosolve	5,000
2	Acetone	5,000
3	Empty	8,000
4	Toluol	8,000
5	Textile spirits	5,000
6	Empty	5,000
7	Ethyl alcohol	8,000
8	Empty	8,000
9	Isopropal acetate	8,000
10	Methyl ethyl ketone	8,000

The facility used large amounts of lead-based dry pigment. Over a period of many years, minor spills of the pigment accumulated at the Lead-Contaminated Soils Area (SWMU 4).

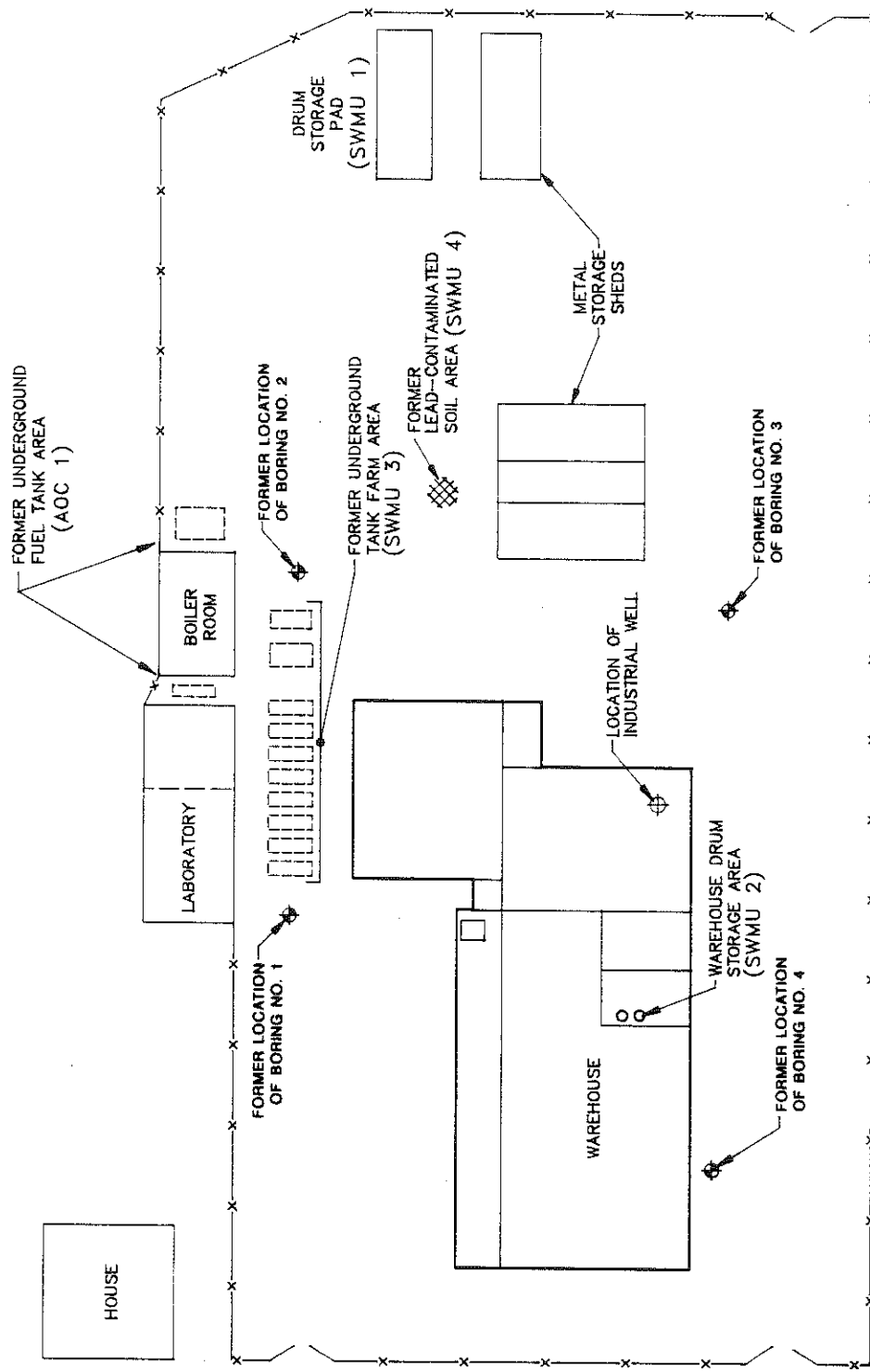
The facility stored fuel oil at the Former Underground Fuel Tank Area (AOC 1) on the north side of the facility. The two tanks had capacities of 1,000 gallons and 6,000 gallons. The facility layout, including SWMUs and AOCs, is displayed in Figure 2.

2.3 WASTE GENERATING PROCESSES

The facility no longer generates any wastes. Wastes generated in the past are discussed below and are listed in Table 2.

When the facility manufactured solvent-based inks, it produced 54,000 pounds of ink formulation waste (K086) annually (Borden, 1980b). This waste was generated from solvent

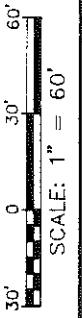
MARATHON BULK FUEL OIL PLANT



GILEAD STREET

BORDEN CHEMICAL
WHITEHOUSE, OHIO

FIGURE 2
FACILITY LAYOUT



SOURCE: MODIFIED FROM BORDEN CHEMICAL SKETCH
RECEIVED BY PRC ON JANUARY 20, 1992

PRC ENVIRONMENTAL MANAGEMENT, INC.

TABLE 1
SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Drum Storage Pad	Yes	RCRA closed in 1983. Closure approved in 1984.
2	Warehouse Drum Storage Area	No	Active. Currently manages unknown wastes.
3	Former Underground Tank Farm Area	No	Closed. Product solvent tanks removed in 1986. Pit bioremediated and air stripped from 1986 to 1987. Pit backfilled in 1987.
4	Former Lead-Contaminated Soils Area	No	Closed. Lead contaminated soils removed in 1989.

Note:

* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

TABLE 2
SOLID WASTES

<u>Waste/EPA Waste Code</u>	<u>Source</u>	<u>Primary Management Unit*</u>
Solvent-based ink wastes (K086)	Production of solvent-based ink	SWMU 1
Unknown wastes	Unknown	SWMU 2
Solvent-contaminated water and soils	Leaking raw solvent storage tanks	SWMU 3
Lead-contaminated soils (D008)	Spillage of lead-based dry pigments	SWMU 4

Notes:

- * Primary management unit refers to a SWMU that currently manages or formerly managed the waste.
-

washes of mixing equipment and contained nonchlorinated solvents, significant amounts of lead, and smaller amounts of chromium. It was stored in drums on the Drum Storage Pad (SWMU 1) until it was disposed of off site. After 1982, when the production of lead and solvent-based inks was phased out, the facility no longer produced hazardous waste. The Drum Storage Pad was RCRA closed in 1983 (Smith, 1983). EPA approved the closure in 1984 (EPA, 1984).

During the VSI, PRC observed two drums of unknown contents located in the warehouse (SWMU 2). One drum appeared to contain Zep brand floor cleaner. The drum is considered waste because it appears to be abandoned. The other drum is marked, "OEPA #9 3/11/88" (Carpenter, 1992). OEPA responded to a complaint about several drums left on the facility grounds on March 11, 1988. OEPA counted 12 drums on the facility grounds. Some of the drums were sampled and found to be nonhazardous (OEPA, 1988). It appears that this was one of the drums that prompted the OEPA inspection. However, PRC was unable to determine if this was one of the drums sampled by OEPA. The other 11 drums were evidently removed from the facility.

Three one-time waste streams have been generated at the facility. The first of these occurred in early 1986, after the plant had shut down. During the cleaning operations, all remaining product was removed by Cousins Waste Control Corp. (Cousins) and disposed of by various methods. Manifests show that 34 55-gallon drums containing waste water-based ink were disposed of at Michigan Disposal, Inc. (MDI) in Dearborn, Michigan. This waste contained significant levels of lead and was listed as D008. About 17 cubic yards of lead-contaminated sludges and solids (D008), were disposed of by Chem-Met Services in Wyandotte, Michigan. All of the underground solvent storage tanks of SWMU 3 were pumped out and about 30,000 gallons of flammable waste (D001) was disposed of by MDI, Chem-Met Services, and Petro-Chem Processing of Detroit, Michigan. All of the 10 USTs used for solvent storage were also removed at this time (Cousins, 1986).

When OEPA responded to the 1988 complaint about several drums, the inspectors also noticed a small 5-foot by 5-foot area of discolored soil. OEPA requested that Borden remove the soil. In October of 1989, Borden removed 272 cubic yards of lead-contaminated soil (D008) from the Former Lead-Contaminated Soils Area (SWMU 4). This waste was removed by Cousins and disposed of by Chem-Met Services and Wayne Disposal, Inc. in Belleville, Michigan (Cousins, 1989). This contamination was probably caused by spillage of lead-based dry pigments.

In early 1991, the two USTs containing fuel oil were removed from the Former Underground Fuel Tank Area (AOC 1). About 600 gallons of residual oil was pumped out of the two tanks and recycled by Usher Oil Co. of Detroit, Michigan. About 30 cubic yards of

petroleum hydrocarbon contaminated soil was also removed and disposed of off-site at Evergreen Landfill in Toledo, Ohio (IATT Environmental, Inc., 1991).

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the Borden facility.

The first documented release occurred when the 10 underground storage tanks containing solvents were removed in May 1986. After the tanks were pulled, Groundwater Technologies, Inc. (GTI), made four borings on August 20, 1986. The borings were drilled to a depth of 17 feet below ground surface (bgs) using a 4-inch hollow stem auger. The drilling of each borehole was periodically halted to collect soil samples at 3.5 feet, 8.5 feet, and 13.5 feet bgs using a split spoon. These samples were analyzed in the field using a photo-ionization detector (PID). Volatile organic compounds (VOC) were detected in the 3.5-foot samples from borings No. 1 and No. 2. The readings were 9 parts per million (ppm) and 3 ppm, respectively. No VOCs were detected by the PID in any of the other samples (GTI, 1986).

The borings were never cased. The borings were left open for three hours and the ground water that collected at the bottom was sampled. After the sampling, the borings were filled with the cuttings and capped with bentonite and cement. Former locations of the borings are shown in Figure 2. Ground-water sampling results are provided in Table 3. High concentrations of VOCs were detected in boring No. 1. Lower levels were detected in boring No. 2 and No. 3. Boring No. 4 did not bear any water (GTI, 1986).

The 12-foot deep, 70-foot by 22-foot pit resulting from the tank removal filled with 8 feet of rain and ground water. The bottom of the pit reached the gray clay layer. Cousins sampled the water in the pit and detected 72 ppm toluene, 52 ppm methyl ethyl ketone (MEK), 680 ppm hexanes, and 86 ppm xylene. Cousins noted an active bacterial population and decided to implement a bioremediation system. The pit was aerated and nutrients were added. When the temperatures dropped in the September, 1986, spray-basin air stripping was implemented until November. This system discharged the treated water back into the pit. A pump was left running throughout the winter, pulling water from the bottom of the pit, discharging it through a 1.5-inch pipe into the atmosphere and back into the pit in an attempt to volatilize some of the contaminants (Cousins 1987). OEPA was not informed of this action until 1989 (OEPA, 1989a).

The pit was sampled on March 2, 1987 and all VOCs were detected at levels below 1 ppm. (Cousins, 1987). The pit was then backfilled with clean fill, but not capped with clay. The

TABLE 3
SUMMARY OF GROUND-WATER SAMPLING
(parts per billion)

<u>Parameter</u>	<u>Boring No. 1</u>	<u>Boring No. 2</u>	<u>Boring No. 3</u>	<u>Detection Limit</u>	<u>*EPA Maximum Contaminant Level</u>
Benzene	4.2	ND	ND	1.7	5
Trichloroethene	BDL	ND	13	1.9	5
Tetrachloroethene	ND	ND	64	2.2	5
4-Methyl-2-Pentanone	18	ND	ND	7.3	NL
Toluene	330	ND	ND	2.1	2,000
Ethylbenzene	6.1	ND	ND	4.5	700
M-xylene	15	ND	ND	4.0	10,000
O&P xylene	12	ND	ND	4.0	10,000
Ethanol	36	23	17	10.0	NL

Notes:

BDL = Below detection limits

ND = Not detected

NL = No limit

Summarized from Groundwater Technologies Environmental Laboratory, 1986. Report No. 42-8431-1, Volatile Organics Analysis for the Borden Chemical facility in Whitehouse, Ohio, September 4.

*EPA, 1990. Drinking Water Regulations and Health Advisories, November.

borings could not be resampled because they had been filled in. It is unknown if the remediation of the pit had any effect on the surrounding ground water. An on-site industrial well, screened 190 feet bgs in the dolomite aquifer, was sampled in early 1988 and showed no signs of VOC contamination. However, lead, chromium, and cadmium were detected at levels of 80 parts per billion (ppb), 20 ppb, and 20 ppb, respectively (Cousins, 1988). The background levels of these metals are not known. The location of this well is shown in Figure 2 (Borden, 1992b).

The second release was discovered in 1988, when OEPA responded to a complaint about a number of drums left on the facility grounds of the closed plant. The investigators noticed a 5-foot by 5-foot area of discolored soil. OEPA took samples which were found to contain 110 ppm extraction procedure (EP) toxic lead. The contamination probably resulted from spilling of the lead-based dry pigments. OEPA requested that Borden remediate the discolored soil (OEPA, 1988). Borden responded and began corrective actions in October, 1989. Cousins took surface soil samples throughout the site, finding hazardous levels of lead on the southern side of the facility. The areas of contaminated soil were excavated to a depth of about 1 foot. The excavations continued radially until all excavated soil was analyzed by Biological and Environmental Control Laboratories, Inc. (BECLI) of Toledo, Ohio and found to contain lead levels less than 5 ppm. The highest recorded chromium concentration in the soil samples was 0.18 mg/L (Cousins, 1989a). The area of contaminated soil proved to be extensive. By the end of the remediation, 272 cubic yards of soil were excavated by Cousins and disposed of by Chem-Met Services and Wayne Disposal, Inc. (Cousins 1989b). It is unknown if any of the lead had leached downward to the ground water, as no ground water samples were taken. A letter from OEPA stated, "...the lead-contaminated soils appear to have been removed, and the 1989 analysis for E.P Toxicity is acceptable" (OEPA, 1989b).

The third release was discovered in 1991, when IATT Environmental, Inc. (IATT) was contracted for the removal of the two underground fuel tanks. The residual oil in the tanks was sampled by IATT and found to be non-hazardous by Belmonte Park Laboratories in Trotwood, Ohio. Six-hundred gallons of the oil-water mixture was pumped out of the two tanks by Michigan Pumping Services of Detroit, Michigan and sent to Usher Oil Co. of Detroit, Michigan for oil reclamation. The tanks were removed and both were found to have several small holes. The tanks and piping were cleaned at Nelson Crane Service of Toledo, Ohio and recycled at Edelstein Scrap Metal Services, also in Toledo (IATT, 1991).

The soil surrounding the tanks was sampled and found to contain as much as 4,000 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons (TPH) by BECLI. The surrounding soil was excavated radially until readings from a photo-ionization detector were below background levels. Six post-excavation soil samples analyzed by University Laboratories,

Inc. in Belleville, Michigan found all TPH levels to be less than 20 mg/kg. Thirty cubic yards of petroleum contaminated soil was disposed of at Evergreen Landfill in Toledo, Ohio. No ground water was encountered during the excavation. The pit was then backfilled with clean fill. Though the report prepared by IATT states that the ground water was unaffected by the leaks, no ground water samples were collected (IATT, 1991). It is not known if any of the contamination migrated to the ground water.

A Wellhead Protection Preliminary Plan prepared by the Toledo Metropolitan Area Council of Governments (TMACOG) states that a fire at the facility caused a release of printing ink into the ground. The report gave no further information about the incident (TMACOG, 1991). The author of the report could not supply further details about the fire, either (Clark, 1992). The facility representative for Borden stated that a fire did occur between 1975 and 1980 at a wax melting machine. The machine, which melted wax before it was added to printing ink, was left on during the lunch hour and caught fire. At the time of the fire, the machine was located inside the facility building, on concrete flooring. To the best of his knowledge, this was the only fire that occurred at the facility and no printing ink was released to the ground (Borden, 1992c). The Wellhead Protection Preliminary Plan also stated that a release of petroleum product occurred at the adjacent Marathon Oil facility (TMACOG, 1991).

2.5 REGULATORY HISTORY

Borden submitted a Notification of Hazardous Waste Activity on August 7, 1980 (Borden, 1980a). A RCRA Part A permit application was submitted on November 17, 1980 (Borden, 1980b). The application listed an annual generation of 54,000 pounds of ink formulation waste (K086). The permit application also listed: 100,000 gallons of drum storage (S01) and 100,000 gallons of tank storage (S02).

Borden requested withdrawal of their Part A in 1982 and stated that no wastes were ever stored in tanks (Borden, 1982). The facility's Drum Storage Pad (SWMU 1) underwent RCRA closure in 1983. This action was approved by OEPA and the Part A was withdrawn on September 28, 1984 (EPA, 1984). The facility then operated as a small-quantity generator of hazardous waste.

OEPA inspected the facility four times between 1981 and 1985; the only violations OEPA cited involved missing training records. In 1988, OEPA received several complaints from nearby residents about drums left at the facility. On March 11, 1988, OEPA sampled some of the 12 drums that were found on the facility grounds. None of the sampled drums were found to contain hazardous material (OEPA, 1988). However, OEPA noticed a small area of discolored

soil. Samples were taken and found to contain 110 ppm of extraction procedure toxic lead. OEPA sent a letter to Borden, requesting that they remediate the lead-contaminated soil area and dispose of the drums properly (OEPA, 1988). Borden complied with the cleanup request and sent the sampling results of the lead-contaminated soils excavation. Borden also sent the sampling results from the 1986 and 1987 tank removal and pit remediation, requesting that OEPA grant some sort of approval for both remedial actions because they wanted to sell the property (Borden, 1989). OEPA stated that it was never informed of the 1986 and 1987 tank removal and pit remediation (OEPA, 1989a). OEPA also stated that it could not grant approval, but the agency indicated that both remedial activities appeared to have successfully reduced the contamination to acceptable levels (OEPA, 1989b).

The facility was never required to have a National Pollutant Discharge Elimination System (NPDES) permit. Borden was in the process of applying for a permit from the Village of Whitehouse Sanitation Department to discharge nonhazardous water-based ink wastes generated from equipment washings to the sanitary sewer, but the facility was shut-down before the permit was issued (Borden, 1992).

Air permits were in effect until the early 1980s, when solvent-based ink production was discontinued. OEPA issued air permits No. 0448002022 P001 and P002 for the high-speed mixers and ball mills. No violations were documented.

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the Borden facility.

2.6.1 Climate

The climate in Lucas County, Ohio, is characterized by cold winters and warm, occasionally hot, summers. The annual average temperature is 48.7°F. The lowest average daily temperature is 15.6°F in January. The highest average daily temperature is 83.2°F in July [U.S. Department of Agriculture (USDA), 1980].

The average total annual precipitation for the county is 31.37 inches per year (USDA, 1980). The mean annual lake evaporation is about 31 inches. The 1-year, 24-hour, maximum rainfall is about 2.25 inches (USDC, 1963). The prevailing wind is from the west-southwest. The average wind speed is highest in April at about 11 miles per hour (USDA, 1980).

2.6.2 Flood Plain and Surface Water

The Borden facility is not located in a 100-year flood plain (Weber, 1992). The facility is essentially level. Surface water appears to drain south towards the dismantled railroad tracks and Disher Ditch. Disher Ditch was dry during the VSI and is an intermittent stream. During periods of high precipitation, Disher Ditch discharges to Blue Creek, about 1 mile east of the facility. Blue Creek discharges to the Maumee River about 5 miles east of the facility; the Maumee River drains into Lake Erie about 21 miles northeast of the facility (USGS, 1980). PRC did not observe any storm sewers during the VSI.

The nearest surface water body is an abandoned quarry that has filled with water. It is located in a park, 600 feet south of the facility and is used for recreational purposes. A larger abandoned quarry lies 1,600 feet to the south. Neither of these quarries appears to have an inlet.

2.6.3 Geology and Soils

The general geological stratigraphy of the region is 20 feet of glacial drift over limestone and dolomite bedrock (TMACOG, 1991).

GTI made four soil borings to depths of 17 feet below ground surface (bgs). Figure 2 shows the former locations of these borings. The boring logs indicate that the top 3 feet of soil in borings No. 1 and No. 2 consists of fill material. The top 4 feet of soil in boring No. 3 consists of fill material. In boring No. 4, the fill material extends downward to 12 feet bgs (GTI, 1986). During the excavation of AOC 1, loamy sand was encountered to a depth of 3 feet bgs and underlain by brown, silty sand (IATT, 1991).

A 1-foot-thick sand lens exists 3 feet bgs in borings No. 1 and No. 2. No evidence of the sand lens was found in borings No. 3 or No. 4. Brown, silty clay with rock fragments is encountered 3 to 12 feet bgs in borings No. 1 and No. 2, and from 4 to 12 feet bgs in boring No. 3 (USGS, 1986).

A very tight layer of gray clay was encountered from 12 to 17 feet bgs in all four borings. None of the borings penetrated beyond 17 feet bgs (GTI, 1986). The clay layer probably reaches downward to 20 bgs, where bedrock is encountered.

Bedrock consisting of middle Devonian limestone and upper Silurian dolomite is encountered at a depth of 20 feet, extending downward to depths greater than 200 feet bgs (TMACOG, 1991; USGS, 1988).

2.6.4

Ground Water

The shallow sand lenses underneath the site are capable of bearing small amounts of water. The lenses were encountered in only two of the borings and are probably horizontally discontinuous. The foundations for the main facility building and the former laboratory probably intersect the sand lens, further limiting horizontal migration in the sand lenses. The fact that boring No. 4 did bear any water also indicates the presence of hydraulic discontinuities in the sand lenses (GTI, 1986). No ground water was encountered during the removal of the fuel oil tanks in AOC 1. However it is not known exactly how deep the excavations reached (IATT, 1991).

The gray clay layer underlying the sand lenses was encountered in all four borings and appears underlie the entire facility (GTI, 1986). The clay layer was found to be at least 5 feet thick from the borings. Regional geological information indicates that the layer is about 8 feet thick (TMACOG, 1991). This clay layer probably minimizes vertical migration of contamination.

The dolomite bedrock aquifer underlying the clay aquitard is the sole source of drinking water in the area. Water levels in the dolomite aquifer are about 60 feet bgs. All of the municipal wells are located 3,300 feet southwest of the facility and drilled to a depth of 160 feet in the dolomite. The nearest private wells are located about 3,000 feet to the north (TMACOG, 1991).

Regional ground-water flow is to the north. Municipal pumping affects the ground-water flow, but only minimally at the Borden facility. The municipal wells are located upgradient from the facility, while private wells are located downgradient. Vertical migration from the upper sand aquifer to the lower, dolomite aquifer is limited by the low permeability of the clay aquitard. The remediation pit retained a large amount of water from June 1986 through April 1987, indicating that the underlying soils have a low permeability. Horizontal migration in the sand lenses is probably minimal due to the discontinuity of the lenses.

2.7

RECEPTORS

The 5-acre Borden facility is located in a mixed industrial and residential use area in Whitehouse, Ohio. Whitehouse has a population of 2,528. The Borden facility is bordered on the north by a residence and a Marathon Bulk Fuel Oil Plant, on the west by a residential area, on the south by dismantled railroad tracks and Whitehouse Park, and on the east by fields. Whitehouse Elementary School is located about 1,400 feet northwest of the facility.

Access to the facility is controlled by a 5-foot-high fence topped with three strands of barbed wire. However, during the VSI, PRC observed that the barbed wire had fallen down on the southern side of the facility. Judging from the graffiti inside the facility, the fencing only partially limits access.

The nearest surface water body is an abandoned quarry in Whitehouse Park, 600 feet south of the facility. Other nearby surface water bodies include (1) a larger abandoned quarry 1,600 feet south of the facility, (2) Blue Creek about 1 mile east of the facility, and (3) Swan Creek about 1 mile north of the facility.

Ground water is the primary source of drinking water in the area. The Village of Whitehouse municipal well field is 3,300 feet southwest of the facility. The closest private wells are 3,000 feet north of the facility. Ground-water flow patterns are to the north (TMACOG, 1991).

No sensitive environments are located on site. The Maumee State Forest is located about 1.75 miles due west of the facility. The nearest wetland is located 6.5 miles west of the facility (USGS, 1980).

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the two SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC observations. Figure 2 displays the SWMU locations.

SWMU 1

Drum Storage Pad

Unit Description:

The concrete Drum Storage Pad is located outdoors on the east end of the facility. The unit was used to store drums before they were shipped off site for disposal. The unit measures 24 feet by 48 feet and is made of concrete. The facility representative did not know if the pad had been removed during closure. The unit was covered with 8 inches of snow at the time of the VSI (see Photograph No. 1).

Date of Startup:

This unit probably began operation in the late 1950s when the facility began producing solvent-based printing ink.

Date of Closure:

The unit has not been used to store waste since 1983. The unit was certified closed in 1984.

Wastes Managed:

This unit managed 55-gallon drums of solvent-based ink wastes (K086). Wastes from this unit were collected for disposal and sent off-site to either Wayne Disposal in Michigan or a cement kiln in Foster, Ohio.

Release Controls:

PRC observed no release controls such as berms or curbing at this unit, but inspection was limited as the unit was covered with snow.

History of Documented Releases:

No releases from this SWMU have been documented.

Observations:

At the time of the VSI, 8 inches of new snow covered the pad. No drums or other wastes were being stored.

SWMU 2**Warehouse Drum Storage Area**

Unit Description: The unit consists of two 55-gallon drums located indoors on a concrete floor on the south side of the warehouse (see Photograph No. 2). One of the drums is labeled "Zep floor cleaner." and the other is labeled, "OEPA #9 3/11/88" (Carpenter, 1992).

Date of Startup: The exact date the facility began storing drums at this unit is not known, but PRC estimates that the unit became active in 1988 after OEPA requested removal of the drums left on the facility grounds.

Date of Closure: The unit is active.

Wastes Managed: This unit manages 55-gallon drums. The exact contents of the drums are not known. By tilting the drums during the VSI, it was found that the drums contained a liquid material. One drum is labeled floor cleaner. The other drum is probably one of the 12 drums OEPA investigated in 1988. The other 11 drums were apparently removed from the facility. Sampling results were not available to determine whether or not this was one of the drums that was sampled and found to be nonhazardous.

Release Controls: The concrete floor has no secondary containment such as a sump or berm.

History of Documented Releases: No releases from this SWMU have been documented. Some staining was visible on the floor around the drums.

Observations: At the time of the VSI, PRC observed some staining on the concrete floor beneath the drums. The drums were in good condition and did not appear to be the cause of the stains. Because the facility handled large amounts of ink, small stains were evident throughout the facility.

SWMU 3

Former Underground Tank Farm Area

Unit Description:

The former underground tank farm consisted of 10 tanks on the north side of the facility (see Photograph No. 3). These tanks were used to store raw solvents used in the ink manufacturing process.

The tanks were removed in 1986. Four of the tanks contained pittings, and some had completely weathered through. The pit where the tanks had been located filled with water. The water was found to be contaminated by toluene, MEK, hexanes, and xylene. Ground-water samples from nearby borings also showed similar contamination levels. In late 1986 and early 1987, the pit was remediated with a bioremediation and air-stripping system. Initial sampling of the water in the pit after the remediation indicated that levels of MEK, toluene, xylenes, methanol and hexanes were all less than 1 ppm. Neither the borings nor the surrounding soils were sampled after the remediation. The remediation's effect on the ground water and the subsurface soils is not known. The pit was backfilled in 1987.

Date of Startup:

Ten underground storage tanks were used to store raw solvents from the 1960s until the early 1980s. The tanks were removed in 1986. Remediation of the water in the pit began in 1986.

Date of Closure:

Remediation of the water in the pit ceased and the pit was backfilled in 1987.

Wastes Managed:

The unit managed non-halogenated solvents (F003).

Release Controls:

A natural clay layer underlies the area 12 feet bgs. The clay appears to be laterally continuous and of a low permeability.

History of Documented Release:

Several of the ten tanks leaked unknown amounts of solvents. Low levels of VOCs were detected in two nearby borings.

Observations:

The unit was covered with snow at the time of the VSI. It was evident that the unit had been backfilled and graded.

SWMU 4**Former Lead-Contaminated Soils Area**

Unit Description: The lead-contaminated soil area was discovered during the 1988 OEPA complaint investigation. OEPA took samples from a 5-foot by 5-foot area of discolored soil. The samples contained 110 ppm of EP Toxic lead. The contamination probably resulted from the spilling of lead-based dry pigments over a period of many years. Additional sampling by Cousins indicated that the contaminated area was larger than expected and discontinuous. The contaminated areas were excavated to a depth of about 1 foot. Excavations continued outward from the contaminated areas and continued until lead levels were less than 5 ppm. A total of 272 cubic yards of lead-contaminated soil (D008) were shipped off site for disposal (see Photograph No. 1).

Date of Startup: Probably the 1950s, when lead-based inks were first produced.

Date of Closure: Lead-based inks were phased out in the early 1980s. The lead-contaminated soils were removed in 1989.

Wastes Managed: Lead-contaminated soils (D008)

Release Controls: A natural layer of clay underlies the area 12 feet bgs.

History of Documented Release: Soil sampling by OEPA and Cousins indicated elevated levels of lead.

Observations: The area was covered with snow during the VSI. The area was level.

4.0 AREAS OF CONCERN

PRC identified one AOC during the PA/VSI. This AOC is discussed below and its location is shown in Figure 2.

AOC 1 Former Underground Fuel Tank Area

Two underground tank used for fuel oil storage were removed in 1991. The tanks capacities were 1,000 gallons and 6,000 gallons. Both tanks were found to contains several small holes. Initial soil samples indicated TPH concentrations of 4,000 mg/kg. Soil was excavated until all soil samples had TPH levels less than 20 mg/kg. Thirty cubic yards of petroleum-contaminated soil were excavated and disposed of off site (see Photograph No. 3).

Ground water: Observed ground-water contamination exists at the site in the shallow sand lenses. Significant levels of VOCs were detected in ground-water samples from borings No. 1, No. 2, and No. 3. Nothing has been done to remediate this ground-water contamination. A thick clay layer appears to underlie the area at a depth of about 12 feet, preventing downward migration to the primary water-bearing aquifer.

Surface water: Low. All contamination is at least 3 to 5 feet bgs; therefore runoff is unlikely. No hydrogeologic connection is apparent between the ground water and the surface water.

Air: Low. All contamination is 3 to 5 feet bgs. Small amounts of VOCs may slowly release to air.

On-site soils: High. Though no soil samples were taken, subsurface soil is probably contaminated because there is ground water contamination. Surface soil should be free of contamination because the release occurred underground.

Recommendations: PRC recommends that Borden supply EPA with documentation of the postremediation contamination levels in the pit. Monitoring wells should be redrilled near the original locations and sampled for VOCs to determine if the pit remediation had any effect on the contaminated ground water.

SWMU 4

Former Lead-Contaminated Soils Area

Conclusions: About 272 cubic yards of lead-contaminated soil was removed from this area. Surface soil samples indicated that the contaminated soil has been removed from the area. The potential for release to environmental media is detailed below:

Ground water: Moderate. It is possible that some of the lead may have leached downward to the shallow water-bearing sand lenses. Vertical migration of the contamination to the dolomite aquifer would be limited by the thick clay layer that underlies the facility. Horizontal migration would be limited by discontinuities in the sand lenses.

RELEASED

DATE

RIN #

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Surface water: Low. Nearly all of the surface lead-contaminated soil has been removed. If any substantial contamination still exists, it is below ground surface, therefore contaminated surface runoff is unlikely.

Air: Low. Nearly all of the surface contamination has been removed. Any residual contamination is non-volatile and probably below ground surface.

On-site soils: Moderate. It is possible that the lead contamination leached downward and contaminated the subsurface soils. Sampling indicates that most of the surface soil contamination had been removed.

Recommendations: PRC recommends that several shallow monitoring wells be drilled in the Former Lead-Contaminated Soils Area and sampled for lead contamination. Soil samples should be collected from various depths during the drilling and analyzed for metals and VOCs. Ground-water samples from the monitoring wells should be analyzed for metals and VOCs.

AOC 1

Former Underground Fuel Tank Area

Conclusions: Two underground fuel tanks were removed from this area. Both tanks were found to have several small holes. Initial soil sampling indicated levels of 4,000 mg/kg TPH. The area was excavated until all soil samples were analyzed to contain less than 20 mg/kg TPH. The potential for release to environmental media is detailed below.

Ground water. Moderate. Ground water samples were never taken in the area. It is possible that some of the petroleum hydrocarbon contamination migrated downward ground water in the brown, silty sand. Vertical migration to the dolomite aquifer is prevented by the thick clay layer.

Surface water. Low. All contamination is underground, thus surface water runoff is unlikely.

Air. Low. All contamination is underground. However, small amounts of VOCs may be slowly released.

On-site soils. Low to moderate. Post-excavation sampling indicates that most of the contaminated soil has been removed. It is possible that small amounts of the petroleum hydrocarbons migrated downward to subsurface soils. Because the release was underground, surface soils should be free of contamination.

Recommendations: PRC recommends that a monitoring well be drilled in the area to a depth of about 12 feet. The ground water in the shallow sand lenses should be sampled and analyzed for VOCs. The cuttings from the well should be sampled and analyzed for TPHs.

REFERENCES

- Borden Chemical Printing Ink Division (Borden), 1980a. Notification of Hazardous Waste Activity, August 7.
- Borden, 1980b. RCRA Part A Permit Application, November 17.
- Borden, 1982. Thomas R. Heaton, letter to Kathleen Homer, EPA Region 5, September 9.
- Borden, 1989. G.N. Starkey, letter to Debbie [Pamela] Doerner, OEPA, December 4.
- Borden, 1992a. G.N. Starkey, letter to David Berestka, PRC Environmental Management Inc. (PRC), February 26.
- Borden, 1992b. G.N. Starkey, telephone conversation with David Berestka, PRC, April 29.
- Borden, 1992c. G.N. Starkey, telephone conversation with David Berestka, PRC, May 15.
- Carpenter, Mike, 1992. Clapp and Haney Company, Telephone Conversation with David Berestka, PRC Environmental Management, Inc. (PRC), January 29.
- Clark, Linda, 1992. Toledo Metropolitan Area Council of Governments, telephone conversation with David Berestka, PRC, May 15.
- Cousins Waste Control Corporation (Cousins), 1986. Hazardous Waste Manifests.
- Cousins, 1987. Case History of the In Situ Biological Treatment at the Borden facility in Whitehouse, Ohio.
- Cousins, 1988. Well water analytical results for Borden, May 5.
- Cousins, 1989a. Soil sampling results, October.
- Cousins, 1989b. Hazardous Waste Manifests, October.
- Groundwater Technologies, Inc. (GTI), 1986. Assessment Report for the Borden Facility Located in Whitehouse, Ohio.
- IATT Environmental, Inc., 1991. Closure Assessment Report, April 5.
- Ohio Environmental Protection Agency (OEPA), 1988. Jeffery A. Steers, letter to Joseph Standley, Borden Realty, Inc., July 8.
- OEPA, 1989a. Pamela Doerner, meeting notes from meeting with G.N. Starkey, November 27.
- OEPA, 1989b. Pamela Doerner, letter to G.N. Starkey, Borden Packaging and Industrial Products, December 21.
- Toledo Metropolitan Area Council of Governments (TMACOG), 1991. Village of Whitehouse, Ohio: Wellhead Protection Preliminary Plan, April.
- U.S. Department of Agriculture, 1980. Soil Survey of Lucas County, Ohio, June.
- U.S. Department of Commerce, 1963. Rainfall Frequency Atlas of the United States, Technical Paper No. 40, U.S. Government Printing Office, Washington, D.C.

U.S. Environmental Protection Agency (EPA), 1984. Karl J. Klepitsch, Jr., Letter to R.J. Ventres, Borden, September 28.

U.S. Geological Survey, 1980. Whitehouse, Ohio, 7.5-Minute Topographic Map, Photorevised.

U.S. Geological Survey, 1988. Water Resources Data, Ohio, Vol. 2. St. Lawrence River Basin.

Weber, Mark, 1992b. Village of Whitehouse, telephone conversation with David Berestka, PRC, April 29.

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE OH 02 SITE NUMBER OH 005 043 740

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Borden Chemical Printing Ink Division	02 STREET, ROUTE NO. OR SPECIFIC LOCATION IDENTIFIER 6725 Gilead Street				
03 CITY Whitehouse	04 STATE OH	05 ZIP CODE 43571	06 COUNTY Lucas	07 COUNTY CODE	08 CONG DIST
09 COORDINATES: LATITUDE 41° 31' 05.0"		LONGITUDE 083° 43' 03.0"			
10 DIRECTIONS TO SITE (Starting from nearest public road) Turn east from Waterville - Swanton Road (Route 64) onto Gilead Street, which leads directly to facility.					

III. RESPONSIBLE PARTIES

01 OWNER (if known) Borden, Inc.	02 STREET (Business, mailing residential) 1050 Kingsmill Parkway				
03 CITY Columbus	04 STATE OH	05 ZIP CODE 43229-1143	06 TELEPHONE NUMBER (614) 431-6666		
07 OPERATOR (If known and different from owner)		08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER		
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency Name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER _____ (Specify) <input type="checkbox"/> G. UNKNOWN					
14. OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply) <input checked="" type="checkbox"/> A. RCRA 3010 DATE RECEIVED: <u>8 / 7 / 1980</u> <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ____ / ____ / ____ <input type="checkbox"/> C. NONE MONTH DAY YEAR MONTH DAY YEAR					

IV. CHARACTERIZATION OF POTENTIAL HAZARD

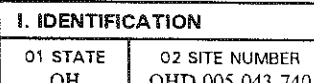
01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE <u>01/20/92</u> <input type="checkbox"/> NO		BY (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify) CONTRACTOR NAME(S): <u>PRC Environmental Management, Inc.</u>	
02 SITE STATUS (Check one) <input type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION <u>1956</u> <u>1985</u> BEGINNING YEAR ENDING YEAR <input type="checkbox"/> UNKNOWN	
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED Solvent-contaminated soils and ground water Lead-contaminated soils			
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION Possible drinking water contamination for both private and municipal drinking water wells located less than 1 mile from the facility. Downward migration to the water-bearing aquifer may be inhibited by a clay layer.			

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.) <input type="checkbox"/> A. HIGH (Inspection required promptly) <input type="checkbox"/> B. MEDIUM (Inspection required) <input type="checkbox"/> C. LOW (Inspect on time-available basis) <input type="checkbox"/> D. NONE (No further action needed; complete current disposition form)			
--	--	--	--

VI. INFORMATION AVAILABLE FROM

01 CONTACT Kevin Pierard	02 OF (Agency/Organization) U.S. EPA		03 TELEPHONE NUMBER (312) 886-4448	
04 PERSON RESPONSIBLE FOR ASSESSMENT David Berestka	05 AGENCY	06 ORGANIZATION PRC EMI	07 TELEPHONE NUMBER (312) 856-8700	08 DATE <u>01 / 20 / 92</u> MONTH DAY YEAR





POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE
OH

02 SITE NUMBER
OHD 005 043 740

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☒ OBSERVED (DATE: 9/4/86) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2,528 04 NARRATIVE DESCRIPTION

Low levels of VOC contamination was detected in three monitoring wells at depths of less than 12 feet. A low permeability clay layer exists at depths of 12 to 17 feet. No wells penetrated below the 17-foot depth.

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

None observed. No known ground water to surface water connection exists.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

None observed.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

None observed.

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

None observed.

01 ☒ F. CONTAMINATION OF SOIL 02 ☒ OBSERVED (DATE: 03/11/88, 4/5/91) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: < 1 (Acres) 04 NARRATIVE DESCRIPTION

Soil samples taken by OEPA in 1988 were found to contain 110 ppm of lead. Soil samples taken by IATT Environmental, Inc. were found to contain 4,000 mg/kg of total petroleum hydrocarbons. Borden has removed all identified areas of soil contamination.

01 ☒ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE:) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 2,528 04 NARRATIVE DESCRIPTION

If the clay layer leaks, contamination may migrate to the dolomite aquifer that provides water for the City of Whitehouse and private drinking water wells.

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

None observed.

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 04 NARRATIVE DESCRIPTION

None observed.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE
OHD

02 SITE NUMBER
OHD 005 043 740

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

None observed.

01 ☐ N. DAMAGE TO OFF-SITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

01 ☐ O. CONTAMINATION OF SEWERS, DRAINS, WWTPS
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

None observed.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

None observed.

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references; e.g., state files, sample analysis, reports)

Ground Water Technologies, Inc., 1986. Assessment Report for the Borden Facility in Whitehouse, Ohio.
IATT Environmental, Inc., 1991. Closure Assessment Report, April 5.
OEPA, 1988. Letter to Border, July 8.

ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

**BORDEN CHEMICAL PRINTING INK DIVISION
WHITEHOUSE, OHIO
OHD 005 043 740**

Date: January 20, 1992

Facility Representatives: Gerald N. Starkey, Environmental Affairs, Borden

Inspection Team: David Berestka, PRC Environmental Management, Inc. (PRC)
Michael Keefe, PRC

Photographer: Michael Keefe, PRC

Weather Conditions: Calm, sunny, cold, temperature about 20°F

Summary of Activities: The visual site inspection (VSI) began at 11:00 a.m. with an introductory meeting.

Because of the extremely cold temperatures in the unheated facility, the introductory meeting was cut short, and the VSI began at 11:15 a.m. Mr. Starkey provided PRC with maps of the facility. PRC inspected the main warehouse, two metal storage buildings, and the grounds. SWMU 1, SWMU 3, SWMU 4, and AOC 1 were all located outdoors. Because the ground was covered with 8 inches of snow, PRC was unable to determine the exact locations of these SWMUs and AOC. PRC discovered two, full 55-gallon drums (SWMU 2) inside the warehouse. Mr. Starkey claimed that the Clapp and Haney Company was responsible for them.

The tour concluded at 12:00 p.m. The inspection team held an exit meeting with Mr. Starkey at the Whitehouse Municipal Building. During the exit meeting, Mr. Starkey answered questions about the facility's past and current operations, solid waste streams generated, and release history. Mr. Starkey agreed to provide the inspection team with the documents requested. The exit meeting concluded at 1:40 p.m.

Mr. Starkey provided PRC with the requested documents on February 26, 1992.



Photograph No. 1

Orientation: East

Location: SWMU 1 and SWMU 4

Date: 01/20/92

Description: The Drum Storage Pad is located just left of the blue building. The Former Lead-Contaminated Soils Area is in the foreground.



Photograph No. 2

Orientation: West

Location: SWMU 2

Date: 01/20/92

Description: Two drums of unknown content: the red drum is labeled "OEPA #9 3/11/88"; the blue drum is labeled Zep floor cleaner No. 158. The smaller drum is filled with trash.



Photograph No. 3

Orientation: West

Location: SWMU 3 and AOC 1

Date: 01/20/92

Description: The Former Underground Tank Farm Area was located in the shaded area between the two buildings. The Former Underground Fuel Tank Area is adjacent to the brick building on the right.

ATTACHMENT C
VISUAL SITE INSPECTION FIELD NOTES

①

TA/VSL

1/20/72
Borden Chemical Property
White House, CH
11:00 AM Sunny, cold - 20's
4-6 inches of recent snow

SKC: Michael Keefe, Dave Buescher
Borden: Gary Starkov

Facility is vacant, most windows boarded
up or broken.

Entire site is fenced w/ barbed wire.
Locked gates.

Nearest residence is across the
street and adjacent (north) ^{west}

All tracks form Smith border

Used to be a dairy 1930-1935 by Page
Dairy Co. may operated until mid-
1940's. Smoke house very crude
and old and other buildings built 1940's

(2)

1961. Borden bought 5 tanks, made solvent-based printing inks until mid/late 1970s, then water-based inks were phased in. 1980 + completely water based operations.

Tanks removed in 1985-1986

Quid fuel at tank removed in 1981
~ 17-18 solvent proof-end. Product tanks were emptied. Filled with water and decont.

Recently removed some tanks (Huntington)?

Clay & Harg (currently leasing building for storage of machine shops

(3)

Cray boxes and parts
Warehouse used for finished goods and shipping
Some (~6-10) empty mixing tanks in the mix. area some ink on the walls
but floors are clean (possibly painted w/ gray paint since shutdown)
Dispensing tanks; another type of mixing
Dispersion area had lot of paint on walls and ceiling
Disposal used for dry pigments

(4)

- Paint: has more resin/binders than pigments.
- Printing inks have low pigment and alot of filler.
- 2 separate drying operations: one sent off site
- During solvent years the facility tried to recycle these solvents
- + some things for waste, but discharging to POTW
- 1 Metal blinding used for pigment storage & dry and calcium carbonate
- (Titanium dioxide). General bag storage
- For metal blinding = nitrous cellulose - 175 cons to gun powder

(5)

- White color ink - contains cellulose as a binder. V. flammable stored in dry form, dedicated building
- Laboratory was essentially used to match colors to customer specs.
- Clay or filler drums Photo W ?
- 2 drums: 2000 clean. } fresh old drum
- Tanks used to stored water - treated w/ oxygenic emulsion.
- Black blinding - old lab, when moved to main plant - it off the power. Had a boiler with back up

10/10/10

(6)

1st set of metal sheets
emptied and clean, a few pellets
discarded
P2 in 501 oil drum storage (E)

P3 all tank farm (W)

Protective filling of Part A for
this facility by Gordon. Filled
12:20

Sept 1984 w. Removal of Part A.

Facility Operation: 4 wastestreams
1. Manufacturing/purifying waste - for
cleaning, off-spec materials (pigment)

2) From removal of UTA
• Residuals in tank

(7)

Three tanks were filled with water - and
20's dry solvent shift

3) Discarded sol's

4) Residual heating oil from tanks before
removal

→ Solvent. 11/11/80. Very thick, they were
taken to Wayne Disposal, Michigan Disposal
and to a cement kiln (in Foster, OH), in new Ohio
stored on a concrete pad (not sun of this
is still there. Snow covered. may have been
removed during clean up)

DRY pigments (colorants & clays) printing ink
Resin/solvent mixture] = "vehicle" fluid ink

my old surfactants, leavers etc. for special
operation followed by bulk mill dispersion
operations. QC for color, packaged and shipped

8

No wastes stored in tanks as far as Gerry knows; all tanks were produced

trade name

"cellulosic" - glycol ether

volatile spirits = heptane & toluene

6-7 millions pounds of spirits int. produced annually

19720 employees

8 hour day / 5 days/week

25 acres of property

POTW permit during water based years
Air permits for high speed mixers of
pulp and ball mill with R.E.H.
in 0448002022 Pool, all pool

9

Gerry has no info on container storage, pad - nothing on 20 container ment.

Tank farm: GTI → Consina
Excavator area was not capped
Data in Consina report is most recent as far as Gerry knows
Pan Doche & OSHA reviewed this data

Gerry will check to see if this is latest data

Discarded soil removed following
EPA inspection in 16 or 19 truck loads in
1989. This soil area initially was
small. Border sampled entire
property - Gerry will try to copy
up a large of removal areas;
(screened for hot spots and stockpiled
soils while waiting for disposal clearance

(10)

location of steel piles is unknown
Another thing for Gary to look for - a
summary document describing the soil
removal, suggest start to furnish

Old fuel oil tanks, steel tanks
Gary has a report on the removal
of these tanks - will send the to us.

1:40 end

Population 2528
Municipal well field
off Heller Road
behind stgs & waterville road
Sanitary sewer to county (Lucas)

Jim Myers - local well driller
Myers and Tiplady

~~W.D. 1/20/92~~



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

RECEIVED
JAN 14 1992

SEP 11 1991

REPLY TO THE ATTENTION OF:

HRE-8J

January 13, 1992

Mr. Gerry Starkey
Borden Environmental Affairs Department
1050 Kingsmill Parkway
Columbus, OH 43229

Re: Visual Site Inspection
Borden Chemical Printing,
Inc.
OHD 005 043 740

Dear Mr. Starkey:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment including a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) and to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.

The VSI has been scheduled for January 20, 1992 at 11:00 a.m. The inspection team will consist of Michael Keefe and Dave Berestka of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Ohio Environmental Protection Agency (OEPA) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

January 13, 1992
Page 2

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,



Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

Enclosure

cc: Janine Seacord, OEPA - Columbus
Jeff Wander, OEPA - Bowling Green

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified four SWMUs and one AOC at the Borden facility. Background information on the facility's location, operations, waste generating processes, release history, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. The AOC is discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 4 summarizes the SWMUs and AOC at the Borden facility and recommended further actions.

SWMU 1 Drum Storage Pad

Conclusions: The unit has a low potential for release to all environmental media. No past releases have been documented, and no wastes have been stored there since 1983. The unit was certified closed in 1984.

Recommendations: PRC recommends no further action at this time.

SWMU 2 Warehouse Drum Storage Area

Conclusions: The unit has a low potential for release to all environmental media. The unit is located indoors on sound concrete flooring, and the amount of waste being stored is small.

Recommendations: PRC recommends that the drums be disposed of properly because the facility is now closed and should no longer store any waste.

SWMU 3 Former Underground Tank Farm Area

Conclusions: Ground water contamination in the glacial till was confirmed by sample results showing moderate levels of VOCs in three borings. The borings were filled in and capped before the remediation of the pit was completed, and could not be resampled. It is unknown if the pit remediation had any effect on either the ground water or subsurface soil contamination. The potential for release to environmental media is detailed below.

RELEASED
DATE 6/11/00
RIN #
INITIALS CMV

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TABLE 4
SWMU AND AOC SUMMARY

<u>SWMU</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Drum Storage Pad	1950s to 1983	None	No further action at this time
2. Warehouse Drum Storage Area	About 1988 to present	Floor stains	Dispose of the drums and their contents
3. Former Underground Tank Farm Area	1950s to 1987	Water in tank pit and ground water in nearby borings was contaminated with VOCs. Remedial activities were conducted at the pit in 1986 and 1987. Ground water in the borings was never resampled.	Collect further documentation of samples. Drill wells near the former locations of borings No. 1, No. 2, and No. 3. Sample these wells for VOCs and metals.
4. Former Lead-Contaminated Soils Area	Unknown to 1989	Soil samples taken in 1988 contained 110 ppm of lead. About 272 cubic yards of soil was removed. It is not known if the ground water was affected.	Drill wells in the formerly contaminated area. Sample ground water and soil for metals and VOCs.
<u>AOC</u>	<u>Dates of Operation</u>	<u>Evidence of Release</u>	<u>Recommended Further Action</u>
1. Former Underground Fuel Tank Area	1950s to 1991	Tanks found to have several small holes when removed in 1991. Soil samples contained 4,000 mg/kg of TPH. Contaminated soil removed. It is not known if the ground water was affected.	Drill wells in the former tank area. Sample ground water and analyze for VOCs.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

HRE-8J

January 13, 1992

Mr. Gerry Starkey
Borden Environmental Affairs Department
1050 Kingsmill Parkway
Columbus, OH 43229

Re: Visual Site Inspection
Borden Chemical Printing,
Inc.
OHD 005 043 740

Dear Mr. Starkey:

The United States Environmental Protection Agency (U.S. EPA) Region V will conduct a Preliminary Assessment including a Visual Site Inspection (PA/VSI) at the referenced facility. This inspection is conducted pursuant to the Resource Conservation and Recovery Act, as amended (RCRA) Section 3007 and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA) Section 104(e). The referenced facility has generated, treated, stored, or disposed of hazardous waste subject to RCRA. The PA/VSI requires identification and systematic review of all solid waste streams at the facility. The objective of the PA/VSI is to determine whether or not releases of hazardous wastes or hazardous constituents have occurred or are occurring at the facility which may require further investigation. This analysis will also provide information to establish priorities for addressing any confirmed releases.

The visual site inspection of your facility is to verify the location of all solid waste management units (SWMUs) and areas of concern (AOCs) and to make a cursory determination of their condition by visual observation. The definitions of SWMUs and AOCs are included in Attachment I. The VSI supplements and updates data gathered during a preliminary file review. During this site inspection, no samples will be taken. A sampling visit to ascertain if releases of hazardous waste or constituents have occurred may be required at a later date.

Assistance of some of your personnel may be required in reviewing solid waste flow(s) or previous disposal practices. The site inspection is to provide a technical understanding of the present and past waste flows and handling, treatment, storage, and disposal practices. Photographs of the facility are necessary to document the condition of the units at the facility and the waste management practices used.


The VSI has been scheduled for January 20, 1992 at 11:00 a.m. The inspection team will consist of Michael Keefe and Dave Berestka of PRC Environmental Management, Inc., a contractor for the U.S. EPA. Representatives of the Ohio Environmental Protection Agency (OEPA) may also be present. Your cooperation in admitting and assisting them while on site is appreciated.

January 13, 1992
Page 2

The U.S. EPA recommends that personnel who are familiar with present and past manufacturing and waste management activities be available during the VSI. Access to any relevant maps, diagrams, hydrogeologic reports, environmental assessment reports, sampling data sheets, environmental permits (air, NPDES), manifests and/or correspondence is also necessary, as such information is needed to complete the PA/VSI.

If you have any questions, please contact me at (312) 886-4448 or Francene Harris at (312) 886-2884. A copy of the Preliminary Assessment/Visual Site Inspection Report, excluding the conclusions and Executive Summary portion will be sent when the report is available.

Sincerely yours,



Kevin M. Pierard, Chief
OH/MN Technical Enforcement Section

Enclosure

cc: Janine Seacord, OEPA - Columbus
Jeff Wander, OEPA - Bowling Green

ATTACHMENT I

The definitions of solid waste management unit (SWMU) and area of concern (AOC) are as follows.

A SWMU is defined as any discernable unit where solid wastes have been placed at any time from which hazardous constituents might migrate, regardless of whether the unit was intended for the management of a solid or hazardous waste.

The SWMU definition includes the following:

- RCRA regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that U.S. Environmental Protection Agency has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents, such as wood preservative treatment dripping areas, loading or unloading areas, or solvent washing areas


An AOC is defined as any area where a release to the environment of hazardous wastes or constituents has occurred or is suspected to have occurred on a nonroutine or nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

PRC requests that, if available, the following facility information be provided during the VSI:

1. Two copies of a detailed map of the facility
2. Facility history, including dates of operation, ownership changes, and production processes
3. Current facility operations
4. Processes that generate waste that is treated, stored, or disposed of at the facility
5. Records of disposal of wastes generated at the facility (manifests, annual reports, etc...)
6. Security at the facility
7. Information regarding geology and the uses of ground water and surface water in the area
8. Permits (air, NPDES, etc...) the facility currently holds or has held in the past and documentation of any permit violations that may have occurred
9. Records of any spills that may have occurred at the facility
10. Descriptive operational information (location, dimensions, capacity, materials of construction, etc...), dates of start-up and closure, wastes managed, release controls, and release history for each SWMU

Date: May 16, 2002

Subject: Non-GPRA (High Priority) site Borden Chemical (Printing Ink) -
OHD005043740

From: Allen A. Debus 

To: Hak Cho, Supervisor (WMB-CAS)

There wasn't much information available on the former Borden Chemical Printing Ink Division facility, which was situated in Whitehouse, Ohio, and so I supplemented the U.S. EPA's single file of documents through a series of phone calls and informational requests. The PA/VSI was completed on June 17, 1992. Borden's 5-acre facility became inactive in 1985, shortly after its Drum Storage Pad closure was certified-approved by the U.S. EPA (in 1984).

Although Borden had been used as a dairy between the 1930s through 1950s, between 1961 and 1982 it operated as a manufacturing center, producing lead and solvent-based printing inks. A decade ago, authors of the PA/VSI report recommended further action (i.e. groundwater sampling and analysis for VOCs) for the vicinity of an area formerly occupied by underground fuel tanks. Two underground tanks (1,000 gallons & 6,000 gallon capacities) had been removed from the location in 1991. Total Petroleum Hydrocarbons (TPH) contamination was noted, leading to excavation and offsite disposal of petroleum-contaminated (4,000 ppm) soil. Following remediation, residual TPH levels were < 20 ppm.

Borden also managed a former underground tank farm, from which chemical releases (i.e. VOCs) occurred. The PA/VSI report states *"...significant levels of VOCs were detected in groundwater samples. Nothing has been done to remediate this groundwater contamination. A thick clay layer appears to underlie the area at a depth of about 12 feet preventing downward migration to the primary water-bearing aquifer.... Though no soil samples were taken, subsurface soil is probably contaminated because there is groundwater contamination. Surface soil should be free of contamination because the release occurred underground."*

The PA/VSI also described an area contaminated with lead, from which 272 cubic yards of soils contaminated with up to 110 ppm lead were removed in 1988. Authors of the 1992 PA/VSI report concluded that groundwater should be sampled for metals and VOCs in the vicinity of the lead-contamination zone.

Because the U.S. EPA's file information ends with the 1992 PA/VSI report, it was not possible to decipher what had happened at the facility since 1992, without making a series of phone calls. But, following a chain of telephone calls, I gleaned the following. Admittedly, some of this information is rather 'sketchy.'

In late 1997, OEPA had been notified of the sale of the former Borden facility involving (or possibly sold to) a firm named Cherokee Environmental Risk Mgt., based in Englewood, CO.

Cherokee performed additional sampling in 1999 to 'complete a certified closure.' Then, the property was resold, following demolition of onsite building structures (by a firm known as 'ERMC'). A Feb. 15, 2000 Cherokee letter supposedly explains how there were, 'no remaining environmental issues.' Repeated phone requests to Cherokee scored no success in obtaining these documents or other information bearing on recent Borden site history. From the OEPA-NW District Office's archives, however, I was able to obtain a copy of a 7/8/98 letter from Cherokee addressed to OEPA. Therein, after summarizing results of the PA/VSI and requesting a 'no further action determination' from OEPA, Cherokee stated that "*Strategic subsurface samples need to be taken in order to confirm that contaminant migration into the soils and shallow groundwater has not occurred...*"

Prior to uncovering further details on the chain of events leading to property sales, I contacted the Lucas County Recorder office, from whom I obtained the name of the current property owner for the 6725 Gilead address, which is also the former facility street address as noted on Borden's Part A application. I was informed that this address is now a residential property owned by Daniel J. and Leslie A. White.

Given that the former Borden facility is evidently no longer commercially owned or operated, and is now zoned as a family residence, this would be a poor choice for a VCAA. Because the site no longer meets our definition of commercial facility, I declined to visit Mr. and Mrs. White.

Some staff are here as early as 7:00 am. It will help if we know when you are stopping by so everything can be ready for you. Please contact our records review coordinator, Linda Tilse. She will set aside a room for you with the files and a copy machine so you can make copies of any documents you'd like to take back to Chicago. Linda's phone number is (419)373-3081. Good Luck!

>>> <Debus.Allen@epamail.epa.gov> 03/21/02 03:07PM >>>

Thanks for the quick reply. I'll ask Gerry Phillips whether he has that document. Otherwise I'll stop by your office for a short visit. (How early are you open?) I'll call Steve Snyder this afternoon & hope to get 'Luckey' with Motor Works.
Allen

Shannon Nabors <Shannon.Nabors@epa.st Debus/R5/USEPA/US@EPA ate.oh.us>	To: Allen cc: Subject: Re: My two RCRAToledo area
voicemail to you regarding 03/21/02 01:36 PM facilities	

Following is what we have in our files that may be pertinent. The documents are too large to fax.

1. July 8, 1998. Letter and submission of the final report on the PA/VSI to Ohio. This letter was submitted by Cherokee Environmental Risk Management. George Hamper and Gerald Philips at Region V were also copied so you may have this in your files already.
2. Jan. 1998 letter notifying Ohio EPA of a real estate acquisition at the Borden facility.
3. Some generator closure letters and documents from 1994.
4. An Aug 1992 report on the removal of two heating oil UST's.

** done for copies*

>>> <Debus.Allen@epamail.epa.gov> 03/21/02 01:57PM >>>

Shannon:

Thanks for the 'heads-up' on the two sites. Can you give me a rough idea as to how much info you have on Borden since the time of the PA/VSI (which is dated June 17, 1992)? Partly I'm asking because when it comes to reading all this exciting historical stuff I tend to be a 'slow reader.' But also I am wondering if there isn't too much essential information post-PA/VSI, would it perhaps be feasible to fax some of the most important documents to me (which might save me some time in the field or at your office)? Otherwise, or if there is too much material, I can plan a morning trip to your office, followed by a site visit to Borden in the afternoon.... or something like that...

Allen

Shannon Nabors

<Shannon.Nabors@epa.st
Debus/R5/USEPA/US@EPA
ate.oh.us>

To: Allen

cc:

Subject: Re: My

voicemail to you regarding

03/21/02 10:26 AM

two RCRAToledo area

facilities

Al, Thanks for your voice mail and e-mail. The contact for the Luckey Motor Wheel plant is Steve Snyder (419)373-3040. Steve works in our Division of Emergency and Remedial Response, which is handling the Motor Wheel site. Please contact Steve, as there has been a significant amount of activity on this site..

As for Borden Chemical (OHD 00504374) in Whitehouse, Ohio, unfortunately, we do not have any staff assigned to this site. We have two files on it which I highly recommend you pay a visit to our office to review. Since we are very short staffed currently, I don't think I can justify assigning this site to someone at this point. We will be very happy to make our files available to you. The site itself should not be difficult to find, nor will either of them require extensive travel outside the Toledo/Bowling Green areas.

Best regards,

Shannon Nabors

>>> <Debus.Allen@epamail.epa.gov> 03/20/02 12:00PM >>>
Hello Shannon:

I seem to have rambled on too long in my voicemail to you about the two "non-GPRA, high priority" facilities. Basically, I would like to talk to you about two northwest Ohio facilities (Borden Chemical - OHD005043740; and Motor Wheel (Luckey Plant) OHD 043642958). I need to learn something about the recent, post-PA/VSI history for both sites, and most likely I would have to visit each facility. Ideally I would like to schedule these visits sometime in mid April, and it would be advantageous from my perspective to conduct the visits during the same trip to the Toledo area. (Most likely I will drive out.) I would also need to know who to contact at both facilities so that I can schedule things accordingly. That's a lot for you for right now, but we can talk about this too. It would be helpful if you could also participate in these visits.

Anyway - please either phone or write back at your earliest opportunity!

My best,

Allen A. Debus
Chemist/Proj. Mgr.
Waste Mgt. Branch

(630) 289-7018

(See attached file: TEXT.htm)

(See attached file: TEXT.htm)

~~614-225-4000~~
614-225-2206 - Gary Starkey

The last contact I have is in a letter sent in 1994. I would imagine it's a shot in the dark as to whether this individual is still with Borden. The phone number I have is ~~(614) 431-6611~~ and name is ~~Gerald Starkey~~

>>> <Debus.Allen@epamail.epa.gov> 03/22/02 09:32AM >>>

Shannon:

One last thing - can you please give me a name and phone number of an environmental contact person at Borden Chemical? I want to be able to discuss the possibility of voluntary corrective action agreements with this individual. My visit is not going to be an 'unannounced' one.

thanks,
Allen

Shannon Nabors
<Shannon.Nabors@epa.st
Debus/R5/USEPA/US@EPA
ate.oh.us>

voicemail to you regarding
03/21/02 02:37 PM
facilities

cc:
Subject: Re: My
two RCRAToledo area

Some staff are here as early as 7:00 am. It will help if we know when you are stopping by so everything can be ready for you. Please contact our records review coordinator, Linda Tilse. She will set aside a room for you with the files and a copy machine so you can make copies of any documents you'd like to take back to Chicacgo. Linda's phone number is (419) 373-3081. Good Luck!

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Shannon Nabors
<Shannon.Nabors@epa.st
Debus/R5/USEPA/US@EPA
ate.oh.us>

voicemail to you regarding
03/21/02 01:36 PM
facilities

To: Allen

cc:

Subject: Re: My

two RCRAToledo area

Following is what we have in our files that may be pertinent. The

OVER →

no longer there

JACKIE

Boindexter
225-7271

Spoke to on 3/26/02 * Rick Springer *
(614) 225-7427

Maria
PERTNAA

(614) 225-7266

Sue Linkay
(513) 782-6260
Color Resolution

cleared

Duro

Cherokee (Denver)

↓ Brett Alexander
(casiple)

Brant
Anderson
Env.
Consultants

Leslie Anderson; Landerson

*(303)-771-9200

X-130

Cherokee
Fund
com

Env. Group

Dwight Stenseth
(executive)

Time Line:

late 1997 -

Cherokee

1/14/98

→ OEPA
notification
of Cherokee's sale

exchange in cash
+ purchase
(assumed properties)

closed
and sold
again

Additional sampling 1999
complete certified
closure

3 summaries
1 AOC

date of report
2/15/00

Site underwent demolition
ERML

no remaining
environmental
issues
→ sold asset



Shannon Nabors
<Shannon.Nabors@e
pa.state.oh.us>

03/21/02 10:26 AM

To: Allen Debus/R5/USEPA/US@EPA
cc:
Subject: Re: My voicemail to you regarding two RCRA Toledo area
facilities

Al, Thanks for your voice mail and e-mail. The contact for the Luckey Motor Wheel plant is Steve Snyder (419)373-3040. Steve works in our Division of Emergency and Remedial Response, which is handling the Motor Wheel site. Please contact Steve, as there has been a significant amount of activity on this site.

As for Borden Chemical (OHD 00504374) in Whitehouse, Ohio, unfortunately, we do not have any staff assigned to this site. We have two files on it which I highly recommend you pay a visit to our office to review. Since we are very short staffed currently, I don't think I can justify assigning this site to someone at this point. We will be very happy to make our files available to you. The site itself should not be difficult to find, nor will either of them require extensive travel outside the Toledo/Bowling Green areas.

Best regards,

Shannon Nabors

>>> <Debus.Allen@epamail.epa.gov> 03/20/02 12:00PM >>>
Hello Shannon:

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Anyway - please either phone or write back at your earliest opportunity!

My best,

Allen A. Debus
Chemist/Proj. Mgr.
Waste Mgt. Branch

(630) 289-7018



TEXT.htm

Cherokee Environmental Risk Management

Borden Chemical
Lucas County
RECEIVED

JUL 10 1998

July 8, 1998

VIA UPS

Mr. Tim Killeen
Ohio EPA
Division of Hazardous Waste Management
347 North Dunbridge Road
Bowling Green, OH 43402



5445 DTC Parkway
Suite 900
Englewood, CO 80111
(303) 771-9200
(303) 771-9270 (Fax)

RE: Former Borden, Inc. Property, 6725 Gilead Street, Whitehouse, Ohio

Dear Mr. Killeen:

After having numerous discussions with Gerald Phillips and George Hamper of the Region V EPA, it is clear that they would agree to the Ohio EPA being the lead agency in the clean-up of the above referenced site. Cherokee Environmental Risk Management would like to develop a plan that would satisfy both the Ohio EPA and the Region V EPA and in turn would get the site into a No Further Action Status. The former Borden, Inc. site in Whitehouse has several environmental issues. A brief description of each issue and the current status of the Solid Waste Management Units (SWMU) and the Area of Concern (AOC) are listed below. Information and supporting data are included in the attachments.

Site History

The former Borden, Inc. property is located at 6725 Gilead Street in Whitehouse, Ohio. The facility at the site was built in the 1930's and was operated by Page Dairy Co. as a dairy until the mid 1950's. Silco, Inc., bought the facility in the late 1950's and produced shellac and other coatings until 1961, when Borden purchased the facility. Borden produced lead and solvent based inks until the late 1970's, when production of water-based and lead-free ink was produced. The facility produced 6 to 7 million pounds of ink annually. Cherokee Columbus Real Estate, L.L.C. purchased the site from Borden on December 17, 1997.

The 5 acre facility consisted of a 15,500 ft² main building, which contained all of the manufacturing, operations and offices for the site. There was a 2,160 ft² laboratory which was used as a lunchroom, a 560 ft² boiler room and three 1,152 ft² metal storage buildings which housed dry pigments, calcium carbonate, nitrous cellulose, and titanium dioxide. All of the structures at the site have been demolished and disposed of off-site, except one concrete pad.

SWMU 1 Drum Storage Pad

When the facility manufactured solvent-based inks, it produced 54,000 pounds of ink formulation waste annually. This waste was generated from solvent washes of mixing equipment and contained non-chlorinated solvents, lead, and smaller amounts of chromium. It was stored in drums on the Drum Storage Pad until it was disposed of off-site. After the late 1970's, when the production of lead and solvent-based inks was phased out, the production of hazardous wastes no longer occurred at the facility. The Drum Storage Pad was RCRA closed in 1983. The EPA approved closure in 1984.

SWMU 2 Warehouse Drum Storage Area

This area consisted of 55-gallon drums located indoors on a concrete floor on the south end of the warehouse. When the Region V EPA completed a Preliminary Assessment/Visual Site Inspection (PA/VSI) in June, 1992, (See Attachment A) it was noted that 2 drums still remained. One of the drums was labeled as floor cleaner and the other was labeled "OEPA #9 3/11/88", which referred to a complaint of abandoned drums, that the OEPA responded to in 1988. At the time of the PA/VSI the drums were noted to be in good condition. Based upon the facts that the drums were stored indoors on a sound concrete floor and were seen to be in good condition and since have been removed, we believe that no contamination occurred at the site. We concur with the recommendations of PRC Environmental Management, Inc. during the PA/VSI, that any potential sources have been removed, and therefore, no further action should be required at this time with respect to SWMU 2.

SWMU 3 Former Underground Tank Farm Area

The Former Underground Tank Farm consisted of 10 tanks on the north side of the facility. These tanks were used to store raw solvents used in the ink manufacturing process from the 1960's until the early 1980's. All of the tanks were removed in 1986. Four of the tanks were pitted, and some had completely weathered through. The pit where the tanks had been removed from, filled with rain and surface water runoff. The water in the pit was found to be contaminated with toluene, MEK, hexanes, and xylene. In late 1986 and early 1987, the pit was remediated by bioremediation and an air-stripping system. Testing of the water in the pit after the remediation showed that levels of MEK, toluene, hexanes, xylenes and methanol were all less than 1 ppm. The pit was backfilled in 1987. A natural 5 foot clay layer underlies the site from 12 to 17 feet below ground surface (bgs) and is of low permeability and forms a layer of protection against possible vertical contaminant migration. In order to receive a No Further Action designation from the state for this SWMU, it is necessary to perform a limited subsurface sampling event where samples would be taken in strategic areas in order for overlapping to occur with other areas of the site that will need to be sampled as well.



SWMU 4 Former Lead Contaminated Soils Area

The Former Lead Contaminated Soils Area was discovered during the 1988 OEPA complaint investigation, when investigators noted a small area of discolored soil. Samples were taken and the soil was found to contain high levels of lead. OEPA requested that Borden clean up the area. Borden had 272 yds.³ of lead contaminated soil excavated to a depth of 1 foot and continued in an outward radius until lead levels were less than 5 ppm. All of the excavated soils were disposed of off-site. A natural 5 foot clay layer underlies the area 12 feet bgs and is of low permeability. The clay forms a low permeability layer of protection against possible contaminant migration into the deep aquifer. In order to receive a No Further Action designation from the state for this SWMU, it is necessary to perform a limited subsurface sampling event of the subsurface soils and the shallow groundwater. Samples would be taken in strategic areas at the site in order for overlapping to occur with other areas of the site that will need to be sampled as well.

AOC 1 Former Underground Fuel Tank Area

Two underground storage tanks, 1,000 and 6,000 gallons, were used for fuel oil storage in this area. In 1991, these tanks were removed and were found to have several small holes. The surrounding soils were found to have high levels of TPH. Thirty (30) yds.³ were excavated and disposed of off-site. The soil was excavated until all of the surrounding soils were at a TPH level of 20 ppm or less. With respect to the underlying clay layer, contaminant migration to the deep aquifer is unlikely. In order to receive a No Further Action designation from the state for this AOC, it is necessary to perform a limited subsurface sampling event of the subsurface soils and the shallow groundwater. Samples would be taken in strategic areas at the site in order for overlapping to occur with other areas of the site that will need to be sampled as well.

Metal Storage Sheds

The OEPA conducted a site visit in 1993, and found some unlabeled drums containing liquid in these two areas. OEPA indicated that unless the contents of the containers can be proven to be non-hazardous, confirmatory subsurface testing will need to be completed in order for the area to receive a No Further Action Status. Samples would be taken in strategic areas at the site in order for overlapping to occur with other areas of the site that will need to be sampled as well.



Conclusions

We have reviewed all of the information on the site to date. Based on this information, we have determined that:

1. EPA has closed SWMU 1 and therefore a No Further Action determination should be granted by the OEPA.
2. A 1992 PA/VSI for SWMU 2 determined that potential sources have been removed, therefore a No Further Action determination should be granted by the OEPA.
3. Strategic subsurface samples need to be taken in order to confirm that contaminant migration into the soils and shallow groundwater has not occurred at SWMUs 3 and 4, AOC 1 and at the location of the metal storage sheds.

Thank you for taking time to review the attached information and to consider this request to be the lead agency for this case. We look forward to working with the OEPA to bring this site to closure. We would be happy to meet with you to discuss the site in greater detail. If you have any questions please feel free to contact me at (303)771-9200 x 107. We look forward to your response.

Sincerely,



Michael Bertrand

cc: George Hamper Region V EPA w/attachments
Gerald Phillips Region V EPA w/attachments



Cherokee Environmental Risk Management

Allen Debus/R5/USEPA/US

02/02/2005 10:05 AM

To

Subject Fw: Borden

TERPINSKI

Hak:

It looks as if we may need to have the current commercial owner do some sampling & maybe enter into a VCAA..... maybe we should talk further about this site. I may have to do a site visit later this month, or possibly in March to meet the new owner/operator. Right now it seems as if because the property is not (or no longer?) residential, but industrial that we should refrain from issuing a CA-725. However, as long as surface soil sampling appears good, then we may still be able to proceed with a CA-725 *now*.

Allen

----- Forwarded by Allen Debus/R5/USEPA/US on 02/02/2005 10:01 AM -----



Michael Terpinski
<Michael.Terpinski@epa.state.oh.us>
e.oh.us>

To

Subject Fwd: Re: Borden

01/31/2005 07:06 AM

----- Message from "Archie Lunsey" <Archie.Lunsey@epa.state.oh.us> on Fri, 28 Jan 2005 18:51:17 -0500 -----

To: "Michael Terpinski" <Michael.Terpinski@epa.state.oh.us>

Subject: Re: Borden

According to a May 6, 2003 IOC, DERR indicated that SWMU #1 and SWMU #2 were 'likely' eligible for a No Further Action determination. However, DERR also stated that subsurface soils samples would be necessary to confirm that the absence of contamination in soils and shallow ground water. I do not have records indicating that the Property was evaluated under the VAP. If you have any additional questions, please let me know.

>>> Michael Terpinski 01/27/05 11:18 AM >>>
Archie,

I'm trying to help Al Debus from Region 5 get some information on the old Borden site in Lucas County. He thought they'd done a clean closure & they have not. His files show a 7/8/98 letter from a Cherokee Environmental to Ohio EPA requesting a NFA letter. Do you know if we ever gave them an NFA letter &, if so, what date?

thanks.



State of Ohio Environmental Protection Agency

Northwest District Office
347 North Dunbridge Road
Bowling Green, Ohio 43402

Here is the material which you requested. Please let us know
if we can be of further assistance

Ohio Environmental Protection Agency

OFFICE OF CENTRAL SUPPORT



Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402

(419) 373-3081
(419) 352-8468 FAX
E-Mail: Linda.Tilse@epa.state.oh.us

Linda S. Tilse
Public Information Specialist

**Thank you
for your interest in
Ohio's environment !**

LUCAS Co
Borden Chemical

To: Mike Terpinski, DHWM
From: Paul Jayko, DERR
Date: May 6, 2003
Subject: Potential Rule 13 Required

A citizen file review took place last week for the Borden Chemical site, located at 6725 Gilead Street, Whitehouse, Ohio. The reviewer brought to our attention a recent change to area zoning and the intention of the Village of Whitehouse to develop the property for commercial use in an expeditious manner.

Borden submitted a RCRA Part A permit application in 1980, then requested withdrawal of their Part A in 1982. SWMU #1 underwent RCRA closure in 1983, this action being approved by Ohio EPA in 1984. The facility then operated as a small quantity generator of hazardous waste.

SWMUs on-site are:	SWMU #1	Drum Storage Pad
	SWMU #2	Warehouse Drum Storage Area
	SWMU #3	Former Underground Tank Farm Area
	SWMU #4	Former Lead Contaminated Soil Area
	AOC #1	Former Underground Fuel Tank Area
		Metal Storage Sheds

DHWM files indicate that as recently as 1998, DHWM (Tim Killeen) had been notified that although SWMU #1 and SWMU #2 were likely eligible for a No Further Action determination, subsurface soil samples need to be taken in order to confirm that contaminant migration into the soils and shallow ground water has not occurred at SWMU #3, SWMU #4, AOC #1, and the location of the metal storage sheds.

Given the intention of the Village of Whitehouse to allow development of this land in the immediate future, it may be prudent for DHWM to determine the necessity of a Rule 13 or similar action. Therefore, DERR is officially referring this action to DHWM. A hard copy with pertinent attachments will be placed in your mail box for your convenience.

Drum Storage Pad
Warehouse Drum Storage Area
Former Underground Tank Farm Area
Former Lead Contaminated Soil Area
Former Underground Fuel Tank Area
Metal Storage Sheds

DHWM (Tim Killeen) had been notified that although SWMU #1 and SWMU #2 were likely eligible for a No Further Action determination, in order to confirm that contaminant migration had not occurred at SWMU #3, SWMU #4, AOC #1, and the location of the metal storage sheds, subsurface soil samples need to be taken. Given the intention of the Village of Whitehouse to allow development of this land in the immediate future, it may be prudent for DHWM to determine the necessity of a Rule 13 or similar action. Therefore, DERR is officially referring this action to DHWM. A hard copy with pertinent attachments will be placed in your mail box for your convenience.

Ohio EPAate of Ohio Environmental Protection Agency

Northwest District Office

347 North Dunbridge Road

Bowling Green, Ohio 43402-9398

(419) 352-8461 FAX (419) 352-8468

PLEASE DELIVER THE FOLLOWING PAGES TO:

NAME:

Allen Debus

COMPANY/DIVISION:

USEPA Region V

FAX NUMBER:

(312) 353-4788

DATE:

Feb 2, 2005

FROM:

A. L. Lundy II

DIVISION:

DERR

TOTAL NUMBER OF PAGES INCLUDING COVER LETTER:

2

COMMENTS:

Attached to the DERR May 6, 2003 IOC as requested

**PROBLEMS WITH THIS FAX!
CONTACT NUMBER ABOVE.**



Michael Terpinski
<Michael.Terpinski@epa.state
.oh.us>

To
Subject Re: Fwd: Re: Borden

02/02/2005 12:03 PM

Allen,

I've found some files that contain the original closure report. the short version is it seems like DHWM did buy off on their clean-up years ago though we always kept the door open in case of future developments. I think they would be very helpful to you, but there's too much to fax. would you like me to copy & mail them to you?

Mike

>>> <Debus.Allen@epamail.epa.gov> 02/02/05 11:10 AM >>>

Thanks to both of you for that reply. I would really like to know now whether the condition of the surface soils (i.e. < 2 feet depth) was judged acceptable. Archie's note indicated that only sub-surface soils required sampling.

Do you have the data indicating the condition of surface soils, or is there other file information retained by OEPA indicating that the surface soils are a 'go.' Perhaps that 'DERR' memo or any other records

that you have on this could be faxed to me?? My FAX number is 312-353-4788.

thanks,

Allen

Michael

Terpinski

<Michael.Terpins

ki@epa.state.oh.

us>

To

To

Allen Debus/R5/USEPA/US@EPA

01/31/2005 07:06

cc

AM

bcc

Fax to

BORDEN INC

165 N. WASHINGTON AVENUE, COLUMBUS, OHIO 43215

March 12, 1986



THOMAS R. HEATON
ENVIRONMENTAL SPECIALIST
ENVIRONMENTAL AFFAIRS

*clerk
RD*

RCRA Activities
Region V
P.O. Box A3587
Attn: ATKJG
Chicago, IL 60690

Re: Borden Chemical, Printing Ink Div.
Menasha, WI - WID 099139933

Borden Chemical, Printing Ink Div.
Whitehouse, OH - OHD 005043740

Dear Madam/Sir:

The referenced Wisconsin facility was closed in April, 1981. No known releases occurred during its operation.

For the referenced Ohio facility, Borden sends an unsigned certification and a copy of a letter from Region V regarding the termination of interim status.

If you have any questions, call me at 614/225-4860.

Sincerely,

Thomas R Heaton

Thomas R. Heaton

TRH/slw

cc: W. B. Barton
B. Collins/Woodlawn

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Borden Chemical, Printing Ink Division

EPA I.D. NUMBER: WID 099139933

LOCATION CITY: Menasha

STATE: WI

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	YES	NO
Landfill		X
Surface Impoundment		X
Land Farm		X
Waste Pile		X
Incinerator		X
Storage Tank (Above Ground)	X	
Storage Tank (Underground)		X
Container Storage Area		X
Injection Wells		X
Wastewater Treatment Units		X
Transfer Stations		X
Waste Recycling Operations		X
Waste Treatment, Detoxification		X
Other		

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

200-gallon above-ground tank ;
Stored caustic wash out of printing ink formulation
vessels ; hazardous waste under RCRA

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

No known releases

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

NA

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Thomas R. Heaton, Environmental Specialist
Typed Name and Title

Thomas R Heaton
Signature

3-14-86

Date



SEP 28 1984

Is this Whitehouse?
UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST
CHICAGO, ILLINOIS 60604
RCRA

REPLY TO ATTENTION OF.
5HW-13

R.J. Ventres, Executive Vice President
Borden Chemical Company-
Printing Ink Division
180 East Broad Street
Columbus, Ohio 43215

RE: Withdrawal of Part A
FACILITY NAME: Borden Chemical Company-
Printing Ink Division
U.S. EPA ID #: OHD 005-043-740

Dear Mr. Ventres:

This Agency has been advised by the Ohio Environmental Protection Agency (Ohio EPA) that the referenced facility is no longer operating as a storage facility under Federal rules. The facility's current status under the Resource Conservation and Recovery Act (RCRA) is that of a generator storing less than 90 days. This letter acknowledges your change in status.

Should you decide in the future to initiate storage of hazardous wastes for greater than 90 days, and such storage is consistent with the original Part A application, you must resubmit a Part A application within 30 days of such initiation.

Should you propose to initiate storage of hazardous wastes in a manner inconsistent with the original Part A application, or to initiate the treatment or disposal of hazardous wastes, you must contact our office and the Ohio EPA at least ten days prior to such initiation. Based on the specifics of the proposed changes, we will advise you whether actual issuance of a permit is a prerequisite for such changes, or whether submittal of Part A and B of your application is sufficient. Failure to resubmit a Part A application, or to contact our office as mentioned above, would subject you to enforcement action. RCRA provides for civil penalties up to \$25,000 per violation.

If you have questions, please contact Rebecca Strom of my staff, at (312) 886-6194, for assistance.

Sincerely yours,

Karl J. Klepitsch, Jr., Chief
Waste Management Branch

cc: Tom Carlisle, Ohio EPA
Cheryl Kaiser, Ohio EPA
Environmental Engineer

Thomas W. Shadle,
Operations Manager

RECEIVED

OCT 17 1984

R. J. VENTRES

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: _____
EPA I.D. NUMBER: _____
LOCATION CITY: _____
STATE: _____

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	YES	NO
• Landfill	_____	_____
• Surface Impoundment	_____	_____
• Land Farm	_____	_____
• Waste Pile	_____	_____
• Incinerator	_____	_____
• Storage Tank (Above Ground)	_____	_____
• Storage Tank (Underground)	_____	_____
• Container Storage Area	_____	_____
• Injection Wells	_____	_____
• Wastewater Treatment Units	_____	_____
• Transfer Stations	_____	_____
• Waste Recycling Operations	_____	_____
• Waste Treatment, Detoxification	_____	_____
• Other _____	_____	_____

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

Typed Name and Title

Signature

Date



State of Ohio Environmental Protection Agency

Northwest District Office

North Dunbridge Road
P.O. Box 466
Bowling Green, Ohio 43402-0466
(419) 352-8461 FAX (419) 352-8468

Lucas Co
Borden Chemical



George V. Voinovich
Governor

Re: Lucas County
Hazardous Waste
Complaint #256

September 1, 1992

Ms. Diane McGilvery, Mayor
Village of Whitehouse
6655 Providence Street
Whitehouse, Ohio 43571

Dear Mayor McGilvery:

On July 23, 1992, the Ohio Environmental Protection Agency (Ohio EPA), received your letter requesting information on the Borden Chemical site. Enclosed is a copy of the agency's files that pertain to the removal of the underground storage tanks and the contaminated soils which occurred in 1989 and 1991. Based on this information, we do not believe that this site poses any immediate threat to human health or the environment. Please note that the Ohio EPA letter dated December 21, 1989, explicitly states that Borden is not released from any liability associated with past operations.

This office will continue to investigate any new information related to this site. If you have any questions, please feel free to contact me at the number listed above.

Sincerely,

Timothy J. Killeen
Division of Hazardous
Waste Management

/mtt

Enclosures

pc: Cindy Lohrbach, DHWM, NWDO

~~NWDO File~~





Lucas Co
Borden Chemical
VILLAGE OF WHITEHOUSE

P. O. BOX 2476

6655 PROVIDENCE STREET

WHITEHOUSE, OHIO

677-5383

43571

Diane McGilvery, Mayor

July 6, 1992

Mr. Jeffery Steers
OHIO EPA/NW District Office
Division of Solid & Hazardous Waste Mgt.
1035 Devlac Grove Dr.
Bowling Green, Ohio 43402-4598

RECEIVED

JUL 23 1992

Re: Borden Chemical
ID #OH005043740

**OHIO E.P.A.
N.W.D.O.**

Dear Mr. Steers,

Prior to July of 1988, inquiry had been made, through your office, on behalf of one of our Village residents who was concerned about the contents of drums which had been sitting behind the Borden Chemical building for years. In the course of discussion that took place, at this time, EPA personnel had indicated that all tanks had been removed from the property some years ago. Relative to the drum inquiry, in a letter from you, dated July 8, 1988, you made reference to an area of contaminated soil that had been found and would be removed.

In March of 1991, Village personnel had noticed a contractor working on the Borden Chemical Plant Site. When he was asked what he was doing, the contractor responded that he had been hired to remove two (2) underground storage tanks.

It has recently come to my attention that there may be other sites of contamination within this property's perimeter. It would be most helpful to us if you would provide us with information on the specific locations and/or configurations of anything that has been removed from this site since its closing in 1985 (i.e. contaminated solid, contaminated soil, storage tanks, other tanks, septic system components, etc.).

Your assistance in this matter would be greatly appreciated. Since this site lies within the Village's jurisdictional boundaries, we have an obligation to ascertain whether or not it presents a potential hazard to our residents.

Respectrully,

Diane McGilvery
Diane M. McGilvery
Mayor

